Part I

195 47-48-50 **File No.** 8993/36

B CLASS **DEPARTMENT** El. & **BRANCH**

Subject:— Electrification

Towns in Bijapur Dist.

IV

BLRC. 1950

Pt. I

File No. 8993/36 - El(2)

Etd. Scott. Slip 91 A

G. R., G D., No. 2408, dated 22-6-22.]

DOCKET SHEET (B)

Subject:—

File No. 8993/36

P.W. **DEPT.**

El. **BRANCH.**

References:—

Date.	To whom sent.	Notes and instructions.

8993/36
43555

El.Br. P.W.D.

Submitted.

2. In G.R.No.6730/36, dt. the 14-1-47, Govt. authorised the El.Commr. to undertake detailed investigations for the electrifications of 21 towns which include the following towns from the Bijapur Dist :-

1 Guledgud.

2 Ilkal.

3 Sulebhavi

4 Hungud.

Subsequently the El.Commr. was requested to investigate the possibility of electrification of Kamatgi and Gudur.

The El.Commr. has now submitted the necy. proposals in the matter and his letter and note accompanying it explain those proposals.

3. The capital cost for the electrification of these towns is as follows :-

	Rs.
(1) Electrification of Guledgud	3,61,300
(2) Electrification of Guledgud and Kamatgi.	5,61,300
(3) Electrification of Ilkal, Hungud and Sulebhavi-Amnigad.	5,74,700
(4) Electrification of Ilkal, Hungud, Sulebhavi-Amingad and Gudur	7,16,800

The first scheme may become self supporting in the tenth year, the second in the ninth year the third and the fourth in the tenth year.

The El. Commr. recommends for favourable consideration the combined schemes mentioned at (2) & (4) above-

vide....

vide para 5 of his letter.

4. In the case of electrification of Ratnagiri, Chiplun, Malwan and Vengurla sanctioned in 1945 Govt. had recently to revise the estimates for the capital cost on account of increase in the price of plant, machinery, cost of labour etc., as shown below :-

Name of Town.	Original estimate Rs.	Revised estimate. Rs.
Ratnagiri	3,50,000	4,30,200
Chiplun	3,49,000	3,98,800
Malwan	3,61,000	4,69,200
Vengurla	3,42,300	4,18,800

The original revenue forecast for these schemes was also revised as the power tariff rates originally adopted were found to be very low compared to the enhanced generation cost and also when compared with the charge at present levied by private licensees for the supply of energy at other places in the Province. The original and revised rates are mentioned below for information.

	Original Rs. A. P.	Revised Rs. A. P.
Lighting	0 - 6 - 0 per unit.	0 - 6 - 0 per unit.
Motive power.		
First 2000 units.	0 - 1 - 3 per unit	0 - 2 - 0 per unit.
Thereafter	0 - 1-0 per unit plus a fixed charge of Rs. 1-12-0 p.m. per B.H.P. connected.	0- 1- 9 per unit. plus a fixed charge of Rs. 1-12-0 p.m. per B.H.P. connected.

The revised rates mentioned above have also been adopted in the scheme for electrification of Islampur and Peth sanctioned in G.R.No.8642/36, dt. the 8- 8-47. These two towns are included in the 21 towns to be electrified in the first five year period of reconstruction plan.

5....

8993/36
43555

5. The tariff rates adopted by the El. Commr. in the Schemes under consideration are the revised rates refd. to in the preceeding para. The capital and operating costs have been calculated after taking into consideration the increase in the price of plant, machinery, labour etc.

Slip B
+ File 8642/36
Lb 30-31

6. Attention in this con. is invited to the noting underlying G.R.No.8642/36, dt. the 8-8-47, sanctioning the electrification of Islampur and Peth. As pointed out therein the small rural towns selected for this Govt. electrification schemes have been carefully chosen with a particular eye to the prospective motive power of small industries in view of the Govt.'s policy to make electric supply available in rural areas and the intial loss should not be allowed to hinder their progress as they may eventually become self supporting.

⊕ Slip A
File 6730/36(4)
Lb 35-36

7. In these circumstances it is for consideration whether the combined schemes mentioned at items (2) & (4) in para 3 above, which are recommended by the El. Commr. may be sanctioned in consultation with the F.D.

10/11/47

Thro' A.B.(II) & D.E.(R).

2
VMW.
10/11/47.

8. The El. Commr. has separately proposed a provision of Rs. 1,00,000/- for the Schemes mentioned at items 1 2 & 4 of para 3 above for the next year's Budget. The F.D. has advised in this connection that the item may be put up as a new item. Necy. action is being taken on the budget papers. The Scheme will be admitted as a new item if it is sanctioned in time, / That is, before the Secy. meeting provisionally fixed on the 20th Dec. In that case the El. Commr. will have to be

have to be specifically informed that no expre. should be incurred in the current year.

Khm
11-11-47.

DE(P)

3/. From the ten year forecast at p. 63 D.S. (I & P)
of the Correspondence section, it will be seen that
the combined scheme for electrification of
Guledgud and Kamatgi towns will be
self supporting in the ninth year while
the scheme for electrification of Guledgud
town only will become self supporting
in the 15th year vide the forecast at p. 3[illegible] of
the Correspondence section. Perhaps the Combined
Scheme at a Capital cost of Rs. 5,61,300
may be approved.

10/. In the case of the combined schemes
for electrification of Hungund, Ilkal and
Sulebhavi-Amengad and for Hungund, Ilkal,
Sulebhavi-Amengad and Gudur, both the
schemes become self-supporting in the
10th year vide forecasts at pp. [illegible]
of the correspondence section resp[illegible] but only
advantage in the latter case is that one
more town viz Gudur gets the benefit
of electric supply. Perhaps the latter
Scheme also at a capital cost

~~2993~~/36/43533

of Rs. 7,16,800 may be approved.

15/11

The Electrical Commissioner's recommendation to take the combined schemes (2) Electrification of Guledgud and Kamatgi and (4) Electrification of Ilkal, Jungund, Sulebhavi-Amingad and Gudur in preference to separate schemes may be accepted and the schemes approved in consultation with the F.D.

As requested by the Electrical Commissioner, approval orders on these two combined schemes shd be issued.

17/11/47

Secy(I) I agree that the Combined Schemes should be taken in hand in preference to single schemes of Guledgud

(1-12-47)

17/11/47

(issue no 17/11/47)

Urgent

U.O. F.D. No 17-11-47)

+ with files no 6730/36 (4) & 8642/36.

FINANCE DEPARTMENT
File no. PWRI
Date 17-11-47
Serial No.

In G.R.,P.W.D. No.6730/36(4) dt 14-1-47, the Electrical Commissioner was authorised to undertake detailed investigations for the electrification of 21 towns mentioned in the G.R. In pursuance of this he carried out detailed investigations in respect of the towns Islampur and Peth in Satara district and the scheme for the electrification of these towns has already been administratively approved by Govt. The P.W.D. has now come up with a proposal for the electrification of 6 towns in Bijapur district in respect of which detailed investigation has been carried out by the Electrical Commissioner.

2. The criteria suggested by the Electrical Commr. and accepted by Govt.for determining whether a particular small town should be electrified during the first five year period are mentioned at 'A' of the F.D. office note dated 23.12.47. The twenty one towns mentioned in G.L.,P.W.D. No.6730/36(4) dated 14.1.47 satisfy these criteria. Out of the 6 towns in Bijapur district in respect of which the proposal for electrification has now been put up by the P.W.D. two towns viz. Kamatgi and Gudur are not mentioned in the above G.R. It is, however, presumed that they satisfy the criteria mentioned above.

3. The P.W.D. proposes to take up combined schemes for the electrification of (1) Gulegud and Kamtgi and (ii)Ilkal, Hungud, Subhash-Amingad and Gudar, The former scheme is estimated to cost Rs.561,300 and the latter scheme is estimated to cost Rs.7,16,800.

The

The financial forecast in respect of these schemes will be found at A pp.63 and 117 .It will be seen that the ~~first~~ primary & Concep. scheme will become self-supporting in the 9th year while the ~~2nd~~ latter scheme will be self-supporting in the 10th year. In working out the financial forecast, the El.Commr. has taken into account the increased ~~cost~~ in the price of plant, machinery etc.The tariff rates taken into account are the same as those adopted in the case of Islampur and Peth Schemes.

4. The combined schemes proposed by the P.W.D. may be approved. From portion 'M' in para 8 of the P.W.D. note, 13.3 it will be seen that the P.W.D. has been asked separately to propose this item as a new item for next year's budget.

R.Y.M 20/11/47

21.11.47

21/11

U.O.No. to P.W.D. dtd 22-11-47 Secy. with hp.

El. Br.

P.W.D.

Submitted with reference to the proceedings on the 1–5 ante.

2. The F.D. has agreed to this Deptl's proposal to approve the two combined schemes viz: (i) Electrification of Guledgud and Kamatgi and (ii) electrification of Ilkal, Hungund, Sulebhavi-Konnigeri and Gudur, estimated to cost Rs 5,61,300 & Rs 7,16,800 respectively, provision for this scheme being made as a new item in the next year's budget estimates. The papers may

El 22/11

A.S.M.

22/11/47

W. D.
File No. 8993/36
49907
Serial No. ~~49907~~

8993/36
49907

now be submitted to the H.M. P.W.D. for admn to the schemes.

Thro AB. (II).

24/11/47

3. A provision of Rs. 1,00,000 for the schemes has already been proposed separately as a new item for the next year's Budget.

D S
24.11.47.

24/11/47

Secy(s)
H M P W D

25/11/47

H.M.P.W.D.

26.11.47

H.M. Agric
4/12/47

4/12/47

See ff

8993/36
49907.

El. Br. P.W.D.

Resubmitted with reference to the proceedings within.

2. The necessary draft revision sanctioning the schemes is put up for appl. It may be shown n.o. to the R.C.D. before issue with an intimation that the schemes form part of the main scheme. + p 123 of corr: section

electric grid - provided for in the port was recently five years when. Thro A.B. (II) & D.E (3) 10-12-47.

10/12/47

10/12/47

D S 11/12/47)

n.o. to the R.C.D. 11-12-47)

+ with files Nos 8242/36 & 6730/36 (4)

RECORD SECTION DEPT.
File No. P.W.D. 8993/36
12 DEC 1947
Serial No. A 2 109

P. W. D.
File No. 8993/36
Serial No. 55018

R.C.D.

Seen and returned n.o. to P.W.D.

22.12.47

A.S.

D.C. 22/12/47

n.o. to P.W.D. dated 23rd Dec 147 & cutting file 8242/36 & 6730/36

8993/36
55018.

El. Br. P.W.D.

Submitted with reference to the O.M. p 10
of the 10.12.47.

2. The T.R.C.D. having seen the p 10
draft resn. + it may now issue

+ p 123 ?

26/12/47

26/12/47

8993/36

55018

El. Bv. P.W.D.

Resubmitted with reference to the o.n. on p. 11 ante.

+ p 123 ante

2. The issue of this version was withheld pending decision of the Council of Ministers on the new items for inclusion in the next years budget estimates. The provision proposed for these schemes in the next years budget estimates has been omitted as the item was classed 'B'. Funds req? for the schemes next year will therefore have to be obtained by means of supplementary grant in case the schemes are to be taken up during the course of the next year. This however need not hold up the administrative appl? to the schemes which may be granted and the El. convnr asked to approach Govt before the schemes are taken up so that [illegible] executive may be authorised

8993/36

55018

in anticipation of the ~~abbl~~ of the
G.A. or with the ~~abbl~~ of the HB.
in accordance with the urgency
of the case.

3. The draft reply, as amended in pencil, may issue, if approved.

+ p|23 of Circular ... Secl

Thro A.B. (II) ✓

Khm 9-1-48.

421
9/1/48

9/1/48.

DS ✓

10/1/48

Secy (S)

12/1/48

H.M.P.W.D. D.C. (S)

H.M. Agri.

15/1/48 H.M. Agri.

14/1/48

8993/36/24460

P.W.Deptt.

El.Br.

Submitted.

2. The following schemes have been administratively approved under G.O.No.8993/36-El., dated the 21-1-48.

	Estimated cost Rs.
(1) Electrification of Guledgud and Kamatgi in the Bijapur Dist.	5,61,300
(2) Electriciation of Ilkal Hungund, Sulebhavi Amingad and Gudur in the Bijapur Dist.	7,16,800

Since no provision was made for these schemes in the current year's budget the El.Commr. was informed that no expenditure should be incurred on the schemes and that he should approach Govt. for funds ~~and~~ before the schemes are taken up.

3. Attention is invited to the El.Commr's letter ~~within~~ from which it will be seen that detailed estimates for these schemes are being prepared for technical sanction and revised administrative approval may also be necy. later on in view of the continuous rise in the prices of plant equipment etc.

4. In order however to facilitate the execution of these schemes without delay the El.Commr. requests Govt permission to purchase direct ~~and~~ and not through the Central Purchae Organisation plant and equipment of Rs.2,42,380 and Rs.2,29,880 in respect of schemes No.(1 and (~~II~~ 2) mentioned in para.2 above respectively in anticipation of techni. sanction to the estimate . In addition he also requests permission to place an order for plant etc. of the value of Rs.2,62,867 required for the electrification of Dharamgaon, Erandol and Parola in the Khandesh Dist. a scheme in respect of which has been submitted by him and is dealt with in the linked case.

5. In view of the rise in prices of plant and machinery the financial forecast for the schemes for

electrification

electrification of Ratnagiri, Chiplun, Malwan and Vengurla had to be revised. Similar revision of the estimates in respect of the schemes of electrification of certain villages of Bulsar and Satara talukas already approved by Govt., is also under consideration and in respect of these schemes the El. Commr. has been permitted to place orders for the required plant and equipment in anticipation of technical sanction and revised administrative approval; but the Secy.(I) has suggested that in view of the rising prices and prolonged delivery dates given by various Coys., no more schemes be sanctioned or the further electrification of other places be allowed and has further observed that it will be necy. to fix up tariffs in such a way that every scheme must be self supporting in the 10th year (please see copy of the Secy's note attached at the beginning). As suggested by the Secy., F.D. the Secy(I)'s suggestion has been refd. u.o. to the El. Commr. for remarks which are awaited.

6. It is proposed therefor that the present proposal of the El.Commr. may be held over till that officer's remarks are received. If this is ~~proposed~~ approved these papers may be referred u.o. to the El.Commr. for information.

BKR
9/6/48.

11/6/48

Thro D.E.(9)

The El. Commr. papers [illegible]

The remarks of the El Commr should be expedited on the general case. We cannot hold up all cases of rural schemes indefinitely as otherwise the prices of plant & machinery will go still higher up.

14/6/48

P.W.D. 24460

El.Br.

Resubmitted.

2. These fpro may be shown no. to the El. Commr. with a request to expedite his remarks on the general case No.6730/36 (4) which is under cor. to that office since 24-5-48.

Rs
14/6/48

No. li El Commr. S. 16-6-48

OFFICE OF THE ELECTRICITY COMMISSIONER WITH THE GOVERNMENT OF BOMBAY
Inward No. 9159
Date 16-6-48

Electric Grid Offices

The scheme of electrification of Dharangaon, Erandol and Parola towns is expected to be self-supporting by the 10th year of its working, as already explained in para 7 of Note 1(page 5, file No.9532/36-El).

Reference is also invited to my remarks vide u.o.r.No.ELG.331/11293, dated 24th June 1948, on the various points raised by Secy. P.W.D.,in his note dated 1-4-48(file No.6730/36 (4)).

P.W.D. 24.6/48

To
The Secy.to Govt.,
P.W.D.,Bombay.
U.O.R.No.Elg.386/11327
24 June 1948.

ARK.24.6.

P. W. D.
File No. 8993/36
Serial No. 33555

8993/36/33555.

P. W. Deptt.

El.Br.

Submitted with refce. to O.N. dated the 11-6-1948.

2. On other set of papers the H.M., P.W.D., has directed that the electrification programmes undertaken and promised to the public should be carried out. The El.Commr. has suggested in the linked case No.6730/36(4) that as a step which will be helpful in keeping the capital costs of electrification schemes down, orders be placed for engines, rails, copper wire etc., required for schemes, in advance of technical sanction to those schemes. It is proposed in the linked case to accept the El. Commr's suggestion. If it is accepted by Govt. the El.Commr.'s proposal under consideration in these papers as explained in para. 4 of the O.N. dated 11-6-1948, may be approved in u.o. consultation with the F.D.

3. In the concluding para. of his note the El.Commr. requests that if his proposal to place orders for plant and equipment in anticipation of technical sanction is approved the revised figures for plant and equipment now submitted by him, as shown below, may also be approved:-

Name of work.	original figures. Rs.	Revised figures. Rs.
(1) Electrification of Guledgud & Kamatgi.	218860	242380
(2) Ilkal, Hungund, Amingad, Sulebhavi and Gudur.	206265	229880

B

It may be suggested here that instead of according approval to revised figures in some items of the estts. it will be convenient to approve the full revised ~~figures~~ estimates submitted by the El.Commr. after taking into account the increase in every respect. If approved the El.Commr. may be informed accordingly.

A

4. Necy. draft for approval will be put up after u.o.r. to the F.Deptt.

KCJ
6-7-48.

7/7/48

5. A provision for electrification of towns in the Bijapur District

5.

was proposed as a new item for the current year's Budget but it was not admitted. Of the El. Comm's proposal as stated in para 4 of the O.N.D the 11-6-48 is now to be approved, expenditure will have to be authorised in the current year in anticipation of Sanction of the L.A. Necy. supplementary grant will be obtained by this Deptt. in due course.

Khan
9-7-48.

Thro' D.E.(I)

19-7-48

A a P 19:- The revised Costs may be allowed but the El Comm. should be asked to submit revised estimates early:

The Sub Comm asks for permission to order plant & equipment as under (in anticipation of Technical Sanction)

(i) Gulabgarh Hydro Elec Rs 2,42,380
(ii) Ilkal Hydro Elec " 2,29,850
(iii) Dharangaon Steam Elec " 2,62,867

This may be agreed to: (i) + (ii) pertain to the file + (iii) to the linked case.

F.D will have to be consulted

FINANCE DEPARTMENT
File No.
Date 22-48 (WRI)
Serial No.

20/7

Sig (1)

21/7/48

V. Urgent.
W.O. to F.D.

22-7-48

Finance Department.P.W.R.I.

The scheme regarding electrification of certain towns in Bijapur District has already been approved administratively in G.R.,P.W.D.No. 8993/36 dated 21.1.48. The proposal now is to approve the revised costs of the scheme as mentioned at 'B' of the P.W.D.note dated 8.7.48 and to permit the El.Commr.to order plant and equipment as mentioned at 'X' of the D.S., P.W.D.'s note dated 20.7.48.It is stated that provision for electrification of towns in Bijapur district was proposed as a new item for the current year's budget, but it was not admitted. It is not clear what is the urgency in the matter.The F.D.may suggest that no expdre. be incurred during the current year and the scheme be put up again as new item for 1949-50.Before the revised costs are approved, the P.W.D. may be requested to put up revised estimates.

2. As regards permitting the El.Commr.to order plants etc.it may be stated that the question will arise when the funds are available and schemes are to be put into execution.Since no funds are available during the current year, no expdre.can be incurred on plants etc. unless the schemes are allowed to be executed during the current year. In view of this the F.D. may suggest that this question may be considered after the schemes are actually allowed to be put into execution and the funds for them are available ~~in the budget~~.

Since then were built
roads following
for
these
with the Budget for 1944-45. The
following
8/10/44

P. W. D.
File No. 8998/36
Serial No. 4185

P.W.Deptt.

El.Br.

The files dealing with the following schemes are put up below:-

		Rs.
(1)	Electrification of Guledgud and Kapatgi in Bijapur Dist. Estimated cost.	5,61,300
(2)	Electrification of Ilkal, Hungund, Sulebhavi Aminged and Gudur in Bijapur Dist. Estimated cost.	7,16,600
(3)	Electriciation of Kharangaon Erandol and Parol in Khandesh Dist. Estimated cost.	11,47,000
(4)	Electriciation of Nukeri, Sankeshwar Chikodi Konnur and Gokak in Belgaum Dist. Estimated cost	14,07,900
(5)	Electrification of Belhongal in Belgaum Dist. Estimated cost.	3,52,000

2. Items (1) and (2) above have been already approved administratively in G.R.No. ~~6730/36(4)~~ 8993/36, dated the 21-1-48. Provision for these items was proposed as a new item for the current years Budget but it was not admitted. The proposal of this Deptt.in respect of these schemes is to ~~approve the revised tariff rates,and the revised figures submitted by the Electrical Commr. for plant and machinery required for the schemes and to~~ authorise El.Commr.to place orders for the plant and equipment required for these schemes to the extent of Rs.4,72,260 in anticipation of the sanction of the Legislative Assembly to the expenditure on these schemes. The F.D. however suggests that no expenditure be ~~xxxxxx~~ incurred during the current year and the schemes may be put up as new item in the next year's Budget.

3. Items 3, 4 and 5.- This Deptt. proposed to grant administrative approval to the schemes as proposed by the El.Commr. and to authorise him to place orders for plant and machinery etc. required for these schemes in in anticipation of the sanction of the Legis.Assembly.

to

to the expenditure on these schemes. It is suggested by the F.D. that these schemes should also be put up as new items and no expenditure should be incurred till they are approved.

4. The towns proposed to be electrified under the above schemes are from those 21 towns in respect of which the El. Commr. was ordered to make detailed investigations and to submit the schemes to Govt. so as to electrify them within the first 5 year period of reconstruction programme. The El.Commr. has stated that theprices of plant and machinery are reaching higher levels day by day and as a step towards keeping down capital cost of the schemes it is necessary to place orders for the purchase of plant and equipment requiredfor the schemes as early as possible. He has also stated that it takes about two years to procure plant and machinery ordered from abroad. It seems therefore advisable to arrange for the plant and equipment without delay.

5. It was therefore proposed by this Department to authorise the El.Commr. to place orders as proposed by him during the current year. In view of the statement of the El.Commr.at A above it is presumed that no expenditure will be incurred during the current year if the El.Commr.is authorised to place orders for plant and equipment now. The El.Commr. may be requested to state urgently whether this presumption is correct.

6. In that case,it seems,the F.D. may have no objection to authorise the El.Commr. to place orders for machinery etc. as proposed by this Deptt. and also to provide the scheme as new item of expenditure.in the next year's Budget estimate.

7. These papers may be referred u.o.to the El.Commr. first with reference to para.5 above

BKR
26/8/48

9532/36

Finance Deptt.
P.W.R. I.

The papers which are meant for El.Commr.to Govt.have been missent to this Deptt. They may be passed on u.o.to the El.Commr.

Id.
31-8-48.

Id.
31-8-48.

U.O.R.to El.Commr.to Govt., dated 31-8-48 with files 8993/36, 9622/36 and 9532/36.

Electric Grid Offices.

According to the present day terms for payment, some advance with the order, say 20 to 30% of the cost of material is usually demanded and has to be paid for. If permission to place orders with the firm, as requested, is granted, some advance payment will have to be made along with the order. As, however, the procedure of getting Govt. authority inviting tenders and their scrutiny will take about 4 to 5 months, the actual first payment will not be made earlier than April 1949 as actual orders are likely to be placed around that month.

As in the circumstances stated above, there would be no expenditure on any of the schemes mentioned during the current financial year, they will appear as 'New Works' for the budget estimates for 1949-50 and the following provision will have to be made for expenditure during the next year:-

	Estimate. Rs.	Budget provision. Rs.
1. Electrification of Guledgud and Mamatgi in Bijapur Dist.	5,61,300	3,98,000
2. Electrification of Ilkal, Hungund, Sulebhavi, Amingad and Gudur in Bijapur Dt.	7,16,800	4,77,400
3. Electrification of Dharangaon, Erandol and Parola in Khandesh Dist.	11,47,000	66,800
4. Electrification of Hukeri, Sankeshwar, Ch'kodi, Konnur and Gokak in Belgaum Dist.	14,07,900	66,800
5. Electrification of Bailhongal in Belgaum Dist.	3,52,700	36,100

Necy.'List of New Major Works' in Financial Rule form No.33-A is sent separately in supersession of this office

No.

No.A.48/13663, dated 12-8-1948, for further disposal.

Id. P.B.A.
20-9-48.

To

The Secy.to Govt.,P.W.D.,Bombay.

U.O.R.No.A-8/15231, dated 21st Sept. 1948.

P.W.Deptt.

El.Br.

Submitted with ref.to the o.n.,dated the 26-8-48.

2. These papers relate to the following electrification schemes:-

(1)	Electrification of Guledgud and Kamatgi in Bijapur Dt. Estimated cost.	5,61,300
(2)	--do-- of Ilkal, Hungund, Sulebhavi, Amingad and Gudur in Bijapur Dist. Estimated cost.	7,16,800
(3)	-do-of Dharangaon, Erandol and Parola in Khandesh Dt. Estimated cost.	11,47,000
(4)	-do- of Hukeri, Sankeshwar, Chikodi, Konnur and Gokak in Belgaum Dt. Estimated cost.	14,07,900
(5)	-do- of Bailhongal in Belgaum Dist. Estimated cost.	3,52,000

The schemes (1) and (2) have been administratively approved in G.R.No.8993/36, dated the 21-1-38, but provision for them was not admitted in the current year.

3. The proposals for orders now are:-

(a) to provide for these schemes as new items of expenditure in the next year's budget estimate;

(b) to accord administrative approval to the schemes (3),(4) and (5) in para.2 above;

(3) to authorise the El.Commr. to place orders for plant and machinery required for these schemes in anticipation of technical sanction.

4. (a) of para.3.- The towns proposed to be electrified by these schemes are from those 21 towns in respect of which the El. Commr.was ordered to make detailed investigations and to submit the schemes to Govt.so as to electrify the towns within the first 5 year period of post war reconstruction programme. Expenditure on these schemes may be provided for in the next year's budget as proposed by the El.Commr.in his note,dated the 20-9-48.

5. (b) of para.3.-Secy.scrutiny in respect of the schemes Nos. 3,4 and 5 in para. 2 above has been made already and

the

and the Dy.Secy. and the Secy.(I) have approved the offi proposal to accord administrative approval. The F.D.has also agreed to this Deptt.proposal subject to the remarks that these schemes be put up as new items for 1949-50. These schemes may be approved administratively.

The El.Commr.has stated that addnl.expenditure will have to be incurred on distribution lines,etc.,for making necy.arrangements for the Rath and Taboot processions and has suggested that Govt. may direct the local Rev.Authorities to try and persuade the parties concerned either to limit the heights of Raths and Taboots to 18 ft.or to fix the routes for processions other than those where distribution lines will run. The El.Commr. may be asked to take up this matter with the local officers himself and submit his proposals to Govt. as agreed to by the Dy. Secy. and Secy.(I).

6. (c) of para.3. The El.Commr. has stated that the actual orders for plant and machinery are likely to be placed around the month of April 1949. The F.D.has suggested that the question of permitting the El.Commr. to place orders inanticipation of technl.sanction may be considered after the schemes are allowed to be putinto execution and the funds are provided for. This question may,if approved,be taken upwith F.D.after the orders on proposals in paras. 4 and 5 above are received.

7. The necy.drafts for approval will be put up after the orders are given.

Id.E.R.N.
6-10-48.

Thro.A.B.(III).

A.B.(III).

8. New items for the next year's Budget are due to the F.D.next month. They will be prepared and sent to the F.D. on return of the papers.

Id.G.A.M.
6-10-48.

Id.M.P.C.
7-10-48.

M.M.,P.W.- Id. M.D.D.G.
11-10-48.

3/30/10/44
DEF
2/1/48

Id.M.P.C.
14-10-48.
Id.S.S.V.
15-10-48.

8993/36/ 1185

P.W.Deptt.

El.Br.

Submitted.

2. Please see office note, dated the 8-7-48 and the Dy.Secy's note thereunder. It is decided to provide for this scheme, viz. electrification of certain towns in Bijapur Dist., as new item, for 1948-50 and necy. further steps in this matter are being taken separately.

3. The F.D. requests that the revised estimates in respect of this scheme may be put up before the revised costs vide 'B' of para.3 on p.19 are approved. Revised estimates may if approved be called for from the El. Commr. as per draft put up.

4. The question of permitting the El.Commr. to order plants etc. in anticipation of technical sanction to the plans and estimate may, as suggested by F.D. be taken up after the L.A. has sanctioned provision for the schemes. It may be stated here that the El.Commr. has stated that actual orders are likely to be placed around the month of April 1948.

BKR
27/10/48

8993/36/11859

P.W.D.

El Br.

Resubmitted.

2. These ffs deal with the electrification of (1) Guledgud and Kamatgi & (2) Ilkal, Hungund, Sulebhavi, Amingad and Gudur in Bijapur Distt. The Elect. Comnr. had been asked to submit revised estts. in respect of these schemes, vide Gt. No. 8993/36-El, dated the 8-11-48. Provision of Rs. 3,98,000 for item (1) and Rs. 4,77,400 for item (2) above has been made in the current years budget for these schemes. The question of permitting the Elect. Comnr. to place orders for plant and equipment, required for these schemes, is to be taken up as stated in the above G.O.

3. It may be stated in this connection that the question of fixing the priorities inter se, in respect of various Elect. Schemes is under consideration of Govt. The Govt. is anxious to proceed with the work of 309 schemes, Kalinadi Scheme and Koyna Project. If these schemes are pushed through the expenditure on Elect works will exceed the allocation of Rs. 675 lakhs for the Grid Schemes, in the first 5 years. Some of the schemes already approved by Govt therefore may have to be postponed & the allocation of Rs. 675 lakhs may also have to be supplemented. The whole question is being considered by Govt. Further action on these ffs as pointed out in para 2 above may be deffered till the decision is arrived at in the above matter.

Kjr 8/7/49

Kjr 8/7/49

El.Por.(1) 31 8993/36/11859

P.W.D

Resubmitted with reference to o.n. P.30 dated the 18.7-49.

2. The question referred to at 'A' on p 30. ante has since been decided and the requisite orders have been issued seperately. The only action now on these papers is to expedite the El. Commr. for submission of the revised estimates for this scheme. The draft put up p 141 c.s. may issue.

6/8/50

19/8/50

JAS

8993/36/45115

El. Br. II.

P. W. D.

Submitted with refee. to para 3 of G.L. No. 8993/36-El., d. the 8-11-48 on p. 137 of the corrspee. Section.

2. ~~Sa~~ Further corrspee. from the El. Commr. with refee. to his letter, d. the 3-6-50. on p. 145 of the corrspee. Section may be awaited.

Necy. orders re: 'A' on p. 145 of the corrspee. Section are being issued separately in file No. 8993/36/43986.

Await.

AS
19-6-50.
19

19/6/50

DS.

Awaited (1-8-50)
19/6

~~2443/36/6-115.~~

~~Elt. Br (I).~~ ~~P. No. 2.~~

~~Submitted with reference to para 2 of y. U. No. 2443/36-Elt (I), dated 20-5-1950~~

~~The Electrical Commissioner with the Govt. of Bombay may be authorised under this Deptt. Memo, No. 2443/36-Elt (I), dated September, 1950.~~

~~Sd/-~~
~~26-9-50.~~

(For further orders please see Part III of this file)

N U R S E R Y S C H E M E S.

ELECTRIFICATION OF TOWNS IN BIJAPUR DIST.

No. 356-10107
Electric Grid Offices,
Foreshore Road,
Bombay, 1.13th Oct., 1947.

To

The Secretary to Government,
Public Works Department, Bombay.

Subject:- Nursery Schemes.
Guledgud, Ilkal, Hungund & Sulibhavi - Amingad.
Electrification of.

Reference: Government Resolution P.W.D. No. 6730/36 (4) dated 14th January, 1947.

As desired in the Government Resolution, P.W.D. No. 6730/36 (4) of 14th January 1947 detailed investigations have been carried out for the towns of Guledgud, Ilkal, Hungund and Sulibhavi - Amingad in Bijapur District. As also desired in P.W.D. U.O.R. No. S.92/11108 dated 27th March, 1947, schemes for proposed electrification of the two places viz. Kamatgi and Gudur, although these were not included for investigations in the above mentioned G.R. have been considered. In this connection the following notes are submitted herewith.

Note No. 1 - Giving details in general of the proposed diesel electric schemes for the towns of Guledgud, Kamatgi, Ilkal, Hungund, Sulibhavi-Amingad and Gudur in Bijapur District.

Note No. 2 - Giving load and other data regarding the electrification of Guledgud.

Note No. 3 - Same as note No. 2 but including load and other data for the supply of electricity to the town of Kamatgi from the proposed diesel station at Guledgud.

Note No. 4 - Giving load and other data regarding the electrification of Ilkal, Hungund and Sulibhavi - Amingad.

Note No. 5 - Same as Note No. 4 but including load and other data for the supply of electricity to Gudur from the proposed diesel station either at Ilkal or Hungund.

2. Reference is invited to this office drawing No. DS/DN - 83 as per copy attached from which it will be seen that if electrification of Kamatgi is to be included along with that of Guledgud as under note No. 3 - seven miles of extra 11 KV transmission lines from Guledgud to Kamatgi, will be involved. In addition, one outdoor sub-station and L.T. distribution for Kamatgi proper will have to be arranged for. Similarly if electrification of Gudur is to be included along with that of Ilkal, Hungund, Sulibhavi and Amingad as under note No. 5, 8 miles of extra 11 KV transmission lines from Amingad to Gudur will be involved and in addition one Outdoor Sub-station of suitable capacity and L.T. distribution for Gudur proper, will have to be arranged for.

3. It will be noted from the report that the capital as well as operating costs are higher than those shown in the similar reports, submitted and sanctioned by the Government for four towns

in Ratnagiri District. This is due to the fact that since the above reports were prepared, there has been an appreciable increase in the price of the plants and other machinery etc. Likewise, fuel oil supply companies have indicated much higher price for fuel oil than what they had done previously. The basis of salaries and wages which are much higher than those adopted previously for staff has also been revised. The revised operating cost also includes part of the cost for a sub-division which will be established for supervision and maintenance of the electrification schemes both in Bijapur and Belgaum Districts.

4. In view of the above mentioned higher costs, power tariff rates adopted in the estimates for the proposed schemes, are in line with those previously proposed for the electrification of Islampur in which connection reference is invited to G.R. No. 8642/36 dated 8th August 47. The rates proposed, however, are more favourable than those adopted by most other small concerns and are likely to be found acceptable.

5. It will be noted that the scheme for Guledgud is expected to be self-supporting in the tenth year and that the maximum demand in the first and tenth year will be about 30 KW and 139 KW respectively. Combined scheme for the electrification of Guledgud and Kamatgi as per note 3 may become self-supporting slightly earlier i.e. in the ninth year and the maximum demand in the first and tenth year will go upto about 51 KW and 233 KW respectively. The combined scheme appears to be more promising than the scheme for Guledgud alone. Hence it is recommended for favourable consideration. The scheme for Ilkal, Hungund and Sulibhavi-Amingad, is expected to be self-supporting in the tenth year and that the maximum demand in the first and tenth year will be about 31 KW and 146 KW respectively. The combined scheme for Ilkal, Hungund, Sulibhavi-Amingad and Gudur as per note 5 may become almost self-supporting in the tenth year and the maximum demand in the first and tenth year will go upto about 37 KW and 177 KW respectively. It will be seen from the ten year forecast that the combined scheme may become almost self-supporting in the tenth year and in order that one more place may get the benefit of electric supply, this scheme may be favourably considered. The survey load data include power requirements for about five hundred electrically driven looms. This load has been taken into account on the assumption that Government will sanction my previously submitted proposals for giving out on hire purchase basis power looms to hand weavers.

It will be noted that there are about 15000 handlooms working at

present in these six towns and it has been assumed that in the first five years, only about 500 handlooms will be replaced by power looms in the houses of hand weavers. If as a result of the Government Policy actively pursued, more electrically operated powerlooms are installed and put into operation, the scheme for Guledgud and other places willbecome self-supporting earlier.

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6. As pointed out in paras 6 and 7 of my letter, which forms preamble to the above quoted Government Resolution, prices of plant and machinery are at present high and consequently it was stated that the electrification of various towns mentioned in the letter will involve appreciable deficits for some years. This is confirmed by the figures which have been worked out and submitted in connection with the scheme for Islampur and is suppor by the present worked out figures for the scheme of Guledgud and other places in Bijapur District. As, however, electrification will enable increased industrial production from village and small scale industries, the deficits, till the scheme for Guledgud and other places becomes self-supporting, may be considered as a justifiable nation building expenditure.

7. Separate Government orders may kindly issue for each of the two following schemes.

(1) Guledgud - Kamatgi electrification as per details in Notes No. 2 and 3 attached.

Total capital cost Rs. 5,61,300/- only.

(2) Ilkal, Hungund, Sulibhavi-Aminagad and Gudur electrification as per details in Notes No. 4 and 5 attached.

Total capital cost Rs. 7,16,800/- only.

Electrical Commissioner with the Government of Bombay.

DSM/RSK
16/X/47 (2) 14110

P. W. D.
File No. 8993/36
43553
Serial No. 43555

Note No.1.

Proposed Diesel - Electric Scheme for the towns of Guledgud, Kamatgi, Ilkal, Hungund and Sulibhavi-Amingad and Gudur in Bijapur District.

1. Features of the Towns:

Guledgud:- It is situated in Badami Taluka. The nearest railway station is Katgeri, which is 7 miles off Guledgud. There is an all weather road connecting Guleddgud with Katge.. for vehicular Traffic. The town of Guledgud is surrounded on three sides by Hills and on the fourth side by a Nalla. The total area covered by the town, is about 0.35 sq.mile.

Kamatgi:- The town of Kamatgi is situated in Hungund Taluka. The nearest railway Station is Bagalkot, which is about 15 miles off Kamatgi. There is a P.W.D.road connecting Kamatgi with Bagalkot for vehicular traffic. It is about 7 miles off Guledgud and about 8 miles off Amingad. It is situated on the Bank of the river Malprabha. The total area covered by the town is about 0.2 sq. mile.

Ilkal:- The town of Ilkal is situated in Hungund Taluka. The nearest railway station is Bagalkot, which is about 38 miles off Ilkal. There is a P.W.D.road connecting Ilkal with Bagalkot for vehicular traffic. During monsoon, the road traffic gets interrupted when there is flood in Nallas. The town is surrounded on three sides by Nallas and on the fourth side by fields. The total area covered by the town is about 0.65 sq.mile.

Hungund:- It is a taluka town. The nearest railway station is Bagalkot, which is about 30 miles off Hungund. Hungund is on the P.W.D.Road from Bagalkot to Ilkal. Hungund is on a small plateau. There is a hill on the North Side and a Nalla on the South side of Hungund. The total area covered by the town is about 0.1 sq. mile..

Sulibhavi-Amingad:- Sulibhavi is a small town in Hungund Taluka. For Revenue and other purposes the town of Amingad, which is a mile off Sulibhavi, is included in Sulibhavi area Amingad is on the P.W.D.Road from Bagalkot to Ilkal and Sulibhavi in the South off Amingad, is on the Amingad-

Gudur--

Gudur Road. Amingad is about 22 miles and Sulibhavi is about 23 miles from Bagalkot, the nearest railway station. There is a hill on the North side and a Nalla on the South side of Amingad. The total area covered by Amingad and Sulibhavi, is about 0.23 sq.mile.

Gudur:- The town of Gudur is situated in Hungund Taluka. It is about 8 miles South off Amingad and about 16 and 24 miles respectively from Hungund and Ilkal. There is a D.L.B.Road connecting Gudur with Amingad for vehicular traffic. The total area covered by the place is about 0.08 sq.mile.

2. Population: The present population of Guledgud is about 20,603, as against 18,307 in 1941. The extension areas are being developed owing to the recent increase in population.

Guledgud--/

Kamatgi:- The present population of Kamatgi is about 8000 as against 6,995 in 1941.

Ilkal:- The present population of Ilkal is about 18,500 as against 17,600 in 1941. The inhabited areas in the town are getting overcrowded and extension areas are therefore contemplated.

Hungund:- The present population of Hungund is about 7,500 as against 6,748 in 1941.

Sulibhavi-Amingad:- The present population of Sulibhavi including Amingad is about 10,500 as against 9,549 in 1941.

Gudur:- The present population of Gudur is about 4000 as against 3,629 in 1941.

3. Scope of Electrical Development:-

The main occupation of the people is agriculture and hand-weaving. Out of the total number of 15,000 handlooms that are operating in Bijapur District, there are about 5,000 looms each in Ilkal and Guledgud, and there are about 2,000, 1,600 and 500 looms in Sulibhavi-Amingad, Kamatgi and Gudur respectively. About 1/3 of the population in each of the above places is engaged on Hand-weaving. As the

demand-----

demand for cloth is increasing, most of the Handloom weavers are anxious to increase the production and some of them have show their willingness to change over their looms to electric drive,. There are also small scale industrial power plants, which are at present driven by oil engines with an aggregate output of about 219 H.P. Most of these engines are worn out and entail at present considerable repairs, Some of them, therefore, are likely to change over their plants to electric drive if electricity is made available.

The town of Guledgud has its own municipal Committee and the Committee is going to establish water-works in near future.Municipal Committee of Ilkal is also considering to have a drainage scheme. The total power requirement for the above water and drainage schemes, when started, will amount to about 70 H.P. The probable loads from these sources, have not however been taken in into account for the purpose of estimating revenue as under the present difficulty of obtaining machinery and parts, it is not certain when the above schemes will be completed. But Negotiation will be started with both the Municipalities in connection with their power requirements after it is decided that the scheme for these towns is to be taken up.

Electrical Load Survey:- Notes No.2, 3, 4 and 5 give the approximate load details for Guledgud, Kamatgi, Ilkal, Hungund Gulibhavi and Gudur respectively and they are based on the information obtained from Municipalities and other local bodies and public men of the places.

Cost of Generation: According to the latest information obtained from Diesel oil supply Cos. the cost of fuel oil delivered a site will be approximately Rs.165/- per ton and that for lubricting oil will be Rs.3/- per gallon. Since the revised rate now quoted for the supply of Diesel oil is much higher than the bas rate of Rs.90/- to Rs.103/8/- which suppliers suggested to this office to adopt for the purpose of estimates some time ago, the tariff rates previously taken as the basis for estimates, have now been revised to meet the higher cost of fuel oil and that operation as well.

Tariff:- The prices of plant, equipment and materials including fuel oil are continually on the increase and the present high cost may continue for some years more. As such large amounts have to be set aside for depreciation and interest. The working cost of Diesel Power Station will be pretty high for some years. This means the generation and supply of cheap electricity may not be possible for some years. Further, the places to be electrified comprise a backward part of the province and as such the tariff rates are to be so selected that they are acceptable to the consumers. The suggested rates are as under:-

i) Motive Power:- As.2 per unit for the first 2000 units per month plus a fixed charge of Rs.1-12-0 per month per H.P.Connected and As.1¾ per unit for the additional units consumed.

ii) Lighting:- For lighting and fans As.6 per unit.

In connection with the abowe rates, it may be mentioned that most of the electric supply companies in small towns charge at present As.6 per unit for lighting and from 1½ to As.3 per unit for motive power plus a fixed charge upto Rs.3/- per B.H.P.connected plus war cost surcharge of 33 and 1/3%.

Financial Details:- The total initial cost for the scheme of Guledgud as per Note No.2 will be approximately Rs.3,61,300. In case, it is decided to serve Kamatgi with Electricity from the proposed diesel station at Guledgud, an Extra Cost of Rs.2,00,000 as per Note No.3 will be involved, making a total cost of Rs.5,61,300. From the estimates given in the above mentioned notes, the anticipated nett deficits in the fifth year of working of the scheme, for Guledgud and Kamatgi, will be about Rs.15,799 and Rs.4877 respectively, making a total deficit of Rs.20676/- for the combined scheme. It will further be seen from the Statements, giving forecast of the development of the scheme over a period of ten years, which are also included in

the---

the above mentioned notes, that the individual scheme for Guledgud, may become self-supporting in the tenth year and the combined scheme may become self-supporting slightly earlier i.e. in the ninth year.

The total initial cost for the scheme of Ilkal, Hungund, Sulibhavi-Amingad as per note No.4 will be approximately Rs.5,74,700. In case, it is decided to serve Gudur with Electricity from the proposed diesel station which may be established either at Ilkal or Hungund, an extra cost of Rs.1,42,100 as per Note No.5, will be involved, making a total cost of Rs.7,16,800. From the estimates given in the above mentioned notes, the anticipated nett deficit in the fifth year of working of the scheme for Ilkal, Hungund, Sulibhavi-Amingad and that for Gudur, will be about Rs. 22,272 and Rs.10,512 respectively, making a total deficit of Rs.32,784/- for the combined scheme. It will further be seen from the statements, giving forecast of the development of the scheme over a period of ten years, which are also included in the above mentioned notes, that the ~~individual~~ Scheme for Ilkal, Hungund and Sulibhavi-Amingad may become self-supporting in the tenth year and the ~~combined~~ including that for Gudur scheme may almost become self-supporting, in the tenth year. It may be noted that the forecasts of development of the schemes throughout, are based on the following assumptions:-

a. The rates of Fuel oil have been estimated at -

Rs.165/- per ton for the first year.

Rs.165/- per ton minus 5% for the Second year.

Rs.165/- per ton minus 10% for the 3rd,4th & 5th year.

It has been further assumed that the cost of fuel oil prevailing in the 5th year will be reduced in the 6th year, 8th and 10th year by 5, 10 and 15% respectively.

b. According to the statements of ten year forecast submitted as per Notes No.2 and 4, provision will have to be made for the installation of an additional set of 100 kW in the sixth year estimated to cost Rs.46,000/- per schem

This---

This capital cost is not included in the initial cost ~~is not included in the initial cost~~ figures of Rs.3,61,300 and Rs.5,74,700 respectively, but interest and depreciation charges have been exhibited in the above statements. According to the statements of ten year forecast submitted as per Notes No.3 & 5, the third set of 150 kW. and 100 kW. will be required to be installed in the second and third year, respectively, although provision in the estimate, has been made for three sets from the beginning.

Technical Details:- The Diesel station at Guledgud, which is proposed to serve the town of Guledgud with Electricity, will be equipped with two generating sets, one of 100 kW. and the other of 50 kW. In case, it is decided to serve Kamatgi with electricity, Diesel Station at Guledgud will be equipped with two generating sets, 100 kW each in the beginning and the third set of 150 kW. will be added later. In the case of towns viz. Ilkal, Hungund, Sulibhavi-Amingad, the Diesel Station at one of these places, will be equipped with two generating sets of 100 kW. each. In case, it is decided to serve Gudur with Electricity, the Diesel Station will have to be equipped with two generating sets 100 kW. each in the beginning and the third set of similar capacity will be added later. Each of these stations will be complete with switchgear, interconnecting cables, power House Crane, Water cooling arrangements, emergency lighting sets and other auxiliaries etc.

The generating supply will be 400/440 volts, three phase, 50 cycles, 4 wire. The areas adjoining

the proposed generating stations will be served direct from the stations at the generating voltage. For the remaining areas which will be far and cannot economically be served from the generating stations, sub-stations at suitable centres will be established. The supply voltage at the generating stations will be stepped up to 11 kV. for the transmission of energy to the above sub-stations where the voltage will be stepped down again to 400 volts for distribution.

nBK/1.X.47.

NOTE NO. 2. 13 NOTE NO. 2.

DETAILS REGARDING UNELECTRIFIED TOWNS.

1. Name of Town, Taluka, District & Division. Guledgud, Taluka Badami, [illegible]pur (Southern Division).

2. Population in 1941 & per cent. increase in the last 10 years. 18,307. 10% Increase.

3. Principal industries of the population. Hand-loom, Agriculture, and [illegible]

4. Probable immediate load-Non-industrial.

	K.W. Day.	K.W. Night.	per year.	KWH/Hr.
1. Municipal Street lights. Big. 61 X.06 / Small 134 x.03 / Total 195 = 7.68	a -	b 7.68	2184 hrs.	16773
2. Municipal Water & Sewage pumping. 2 pumps each of 5 H.P.	-	b 7.50	b [illegible] hrs : 1460 hrs.	10950
3. Railway Station Load.	-	-		
4. Light & Fan Load of Public Buildings e.g. Govt. offices, Courts, Hospitals Schools etc.	a 0.9	b 1.08	a [illegible] days.	2360.
			b 4 hrs. 300 days.	1296.
Day 15 fans x .06, (7 connection) 36 x .03: =0.9 KW. = 1.08 KW.				
5. Cinema Houses & Theatres. 8 H.P. : 6 K.W.	-	b 6.00	b 5 hrs. for 365 days.	10950.
6. Bazaar Lights. (150)X(.04 K.W. each). = 6 KW.		b 6.0	b 4 [illegible] 365 days.	8760.
7. Hotels & Religions Institutions. 13 fans.X.06. Lights. 42 ~~[illegible]~~ (25 hotels + 17 ~~Restaurants~~ Rel. Inst.) x.04	a 0.8	b 1.7	a 6 [illegible] 240 days (day load).	1152.
			b 4 [illegible] 365 days (Night load).	2482.
8. General Domestic Lights & Fans. 120 fans L.F. 50% 60 x 60 : 3600 : 3.6 K.W. Light 580 Conct. L.F.50% 290 x 60 :17400: 17.4 K.W.	a 3.6	b 17.4	a 6 [illegible] 180 days.	3888
			b 4 [illegible] 365 days.	2540
9. Officers Residential & Public Places.				
10. Festivals & marriage occasions, etc.				
TOTAL: ..	5.3	47.36		

5. Probable load from Industrial Users.

		K.W. Day.	K.W. Night.	Hrs. Per day.	K.W.H./Yr.
1. Cotton Mills.		-	-	-	-
2. Gin Presses.		-	-	-	-
3. Looms.	10 connections: 130 looms = 97.5 H.P. Load Factor 80% i.e. 78 H.P.	a)58.5	-	a) 6 hours per day for 300 days.	105300
4. Oil Mills.		-	-	-	-
5. Yarn twisting and Doubling Frames.	Mr.S.G.Jawate 20 H.P.(27000 Units).				
	" M.D.Ragaval 3 H.P.				
	" D.N.Bhandge 5 H.P.	a) 21	-	a) 6 hours per day for 300 days.	37800
6. Flour Mills.	Mr. M.V.Guledgud - 12 H.P.	a) 9	-	a) 6 hours per day for 300 days.	16200
	" S.R.Hegadi - 12 H.P.	a) 9	-	a) 6 hours per day for 300 days.	16200-
7. Agricultural Pumps.					
8. Workshops.		-	-	-	-
9. Miscellaneous.		-	-	-	-
	Total.	97.5	-		175500

10. Probable total load immediately.

	Day	Night.
Non-Industrial Load.	5.3	47.36
Industrial Load.	97.5	-
Total:	102.8	47.36

Load factor for dayload = 80% i.e. 82.24 (It is assumed that).
Max.Demand=82.24+25% of night Load.
=82.24+11.84
=94.08 K.W.(Day).

47.36+25% of daytime load may come at night.
=47.36+25.7
=73.06 kW.(Night).

Suggest the installation of one set of 50 KW and the other of 100 KW 440/400 volts, three phase, 50 cycles Diesel Engine alternator set in the beginning.

Main Estimate.

Electric Grid Department.

Estimate framed in the office of the Electrical Commissioner with the Government of Bombay of the probable expense that will be incurred in the electrification of Guledgud Town in Bijapur District.

Rupees three lacs Sixty-one Thousand and three hundred only

Rs. 3,61,300/-

ABSTRACT.

Quantity	Items.	Rate Rs.	Rate A:P	Per	Amount Rs.	Amount dec.
1	Power House, Machinery etc.	As per sub-estimate No.1 enclosed.			2,38,400.	
2	Transmission and Distribution System.	As per Sub Estimate No.II Enclosed.			45,862.	
3.	Transformers, Switch gear, Meters, Street light fittings, House Services etc.	As per sub-estimate No.III enclosed.			77,038.	
				Rs.	3,61,300.	

2,38,400
84,820 ÷ 47
323220

45,862
88,766 ÷ 47
134628

77,038
26,414 ÷ 47
103452

561300

DIESEL POWER STATION - GULEDGUD.

Sub-Estimate No.I.

Quantity:	ITEMS.	Rate	Per	Amount.
	A - G.			
1	1 - 20 Land-cost of land for Power Station:	Lump Sum		1,600.
2	:a) Power Station Building and foundation: for Engines, fencing, Preparation of ground etc.			50,000.
	:b) Well, piping and reservoir.			4,000.
3	:Set of fuel oil Storage tanks with piping			5,750.
4.	:5 Ton Crane complete with Gantry beams.			5,000.
5.	:a) Diesel Sets.			69,700.
	1 : 50 KW. 1 : 100 KW.			
	:b) Spares.			3,000.
	COOLERS AND ACCESSORIES.			
6.	1 :a) Cooler. 2 :b) Heat Exchanger. 2 :c) Circulating pump. :d) Pipes, Valves, fittings.			11,500.
	:e) Well-pump.			1,750.
7.	:a) Petrol Paraffin Engine Compressor with Emergency lighting Set.			4,600.
	:b) Electrically driven Compressor and piping.			
8.	2 :a) Transformers.	4000	Each	8,000.
	:b) 11 kV Switch gear for out-door Switching Station.			3,000.
	:c) Electrical Spare parts,			2,000.
9.	:a) Switch Board.			18,000.
	:b) Voltage Regulator.			1,500.
10.	:Set of interconnecting cables.			3,500.
11.	:Power, Station Lighting.			1,000.
12.	:Workshop Equipment.			5,000.
13.	:Earthing.			1,600.
14.	:Transport.			3,000.
15.	:Erection including labour.			7,500.
				2,10,400.
	Land.			1,600.
				2,08,800.
	Contingency 5% Excluding cost of land.			10,438.
				2,19,238.
	Cost of Land.			1,600.
				2,20,838.
	:Works Establishment 3% :Tools & Plants and testing apparatus. 2% :Establishment & General Charges. 3% 8%.			17,562.
				2,38,400.

Transmission & Distribution - Guledgud.
H.T. & L.T. = ¾ mile. 150' Span. L.T.=3¼ miles 150' Span.

Sub-Estimate No.II.

Quantity:	I T E M S.	Rate	Per	Amount.
1. ¾m:	11 KV line on 5" x 3" x 11 lbs.32'long R.S.Js for tangent location and 60 lbs. yd. rails 33' for angles and dead ends: 150' span with 3 Nos.6 copper conductors for HT lines and with LT lines on the same poles consisting of 3 Nos.No.6 copper and one of No.8 Neutral for three phase feeder, one of No.8 for Street lighting wire inclusive of one run of No.8 G.I. wire as earth wire.	15130	Mile:	11,348.
2. ½m:	L.T.Line with 5" x 3" x 11 lbs. R.S.Js: 30' for tangent locations and 60 lbs. yd. rails 30' for angles and dead ends: 150' span with 3 Nos. No.2 S.W.G.and one of No.4 SWG.Copper for phases and Neutral of L.T.feeder, One of No.? SWG: Copper for Street lighting main and one: of No.8 S.W.G. G.I.wire as earth wire.:	11780	Mile:	5,890.
3. ½m:	Same as Item No.2 above except that L.T.feeder to be with three Nos.No.4 S.W.G. for phases and one of No.6 SWG Copper for Neutral.	9,975	Mile:	4,988.
4. ½m:	Same as Item No.2 above except that L.T.feeder to be with 3 Nos.No.6 S.W.G: for phases and one of No.8 SWG. Copper for neutral.	8,655	Mile:	4,327.
5. 1¾m:	Same as in item No.2 above except that: L.T.feeders to be with all four wires of No.8 S.W.G.copper.	7,940	Mile:	13,895.
				40,448
	Contingency 5%.			2,022.
				42,470.
	Works Establishment 3%. Tools and plant and Testing apparatus. 2%. Establishment & General charges 3%. 8%.			3,392.
				45,862.

TRANSFORMERS, SWITCHGEAR, METERS, STREET-LIGHTING, FITTINGS, HOUSE SERVICES ETC.

GULEDGUD.
Sub-Estimate No.III.

Quantity:	I T E M S.	Rate	Per	Amount.
	I TRANSFORMERS:			
1. 2	11 kV/400 V-3 phase, 50 cycles outdoor transformers 50 KVA.	3,000	each	6,000.
	Transport and Erection.	Lump Sum.		200.
	II. Special Structures.			
2. 2 Nos.	Transformer structures.	1,500	each	3,000.
3. 4 Nos:	Telegraph crossing structures.	290	each	1,160.
4. 1 No.	Take off and sub-station structures at Power House.	2,000	each	2,000.
	III. Switchgear Erected.			
5. 3 Nos	11 kV. Gang operated switches.	550	each	1,650.
6. 2 sets:	11 kV. Tripple pole fuses.	275	Set	550.
7. 2 sets.	11 kV Lightning Arresters.	490	set	980.
8. 2 sets:	L.T.Lightning arresters.	80	set	160.
9. 2 sets:	L.T.Switchgear.	1,500	set	3,000.
	IV. Street Light fittings.			
10. 195 Nos.	Street Light fittings erected.	30	each	5,850.
	V. House service - Connections erected:			
11. 580 Nos.	House service connections.	75	each	43,500.
				68,090
	Contingency 5%.			3,400.
				71,450.
	Works establishment 3%.			
	Tools and plant and testing apparatus. 2%.	8%.		5,588.
	Establishment and General charges. 3%.			
				77,038.

DEPRECIATION AND INTEREST - GULEDGUD.

Item No.		Capital in Rs.	Amount of Depreciation in Rs.
1	a) Power house building, fuel storage tanks, water cooling tanks including pumping sets, engine room crane well-piping and reservoir etc. S.F. .03722	73,800	2,746.
2	100 KW. Diesel Generating Set.		
	50 KW. " " "	89,000	4,786.
	440 volts three phase 50 cycles with starting equipment and accessories (S.F; .05377		
3	Transformer, Switchgear workshop etc. S.F. .03722	46,000	- 1,712
4	Transmission and distribution lines. S.F. .02743.	40,448	1,109
5	Transformers, switchgear street lights, fittings, House Services etc. S.F. .03722,	39,090	1,455
6.	Meters. S.F. .05377.	28,960	1,557 .
	Total:-		13,365
	Interest on capital of Rs.3,61,300 at 3½%.		12,648
	Total amount of Interest and Depreciation:		26,013.

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UNITS GENERATED.

Item No.	Particulars.	Amount in Rs.
1.	Probable sale of units in case of non-industrial load.	85,815 units.
2.	Probable sale of units in case of Industrial Load.	175,500 units.
3.	Units required for cooling water motor pumping set.	13,140 units.
	Total:--	274,455 units.
	Plus loss due to transmission and distribution 15%	41,168
	Total Generated will be ..	315,623

COST OF FUEL.

	Fuel consumption per Unit Generated.	.84 lbs.
	Cost of fuel oil per unit generated.-	
	Fuel oil at Rs. $\frac{.84 \times 148 \times 16}{2240} = .89$ Anna	.89 Anna.
	Total quantity of fuel-oil required for the year $= \frac{.84 \times 315,623}{2240} = 118.3$	118.3 Tons.
	Working cost under this heading.	
	$= 118.3 \times 148 = 17508$	Rs.17508
	Cost of lubricating oil.:	
	Cost of lubricating oil 600 gallons per year at 3/- Rs. per gallon. 50 KW set consuming .04 gal. per hr. and 100 KW set consuming at .077 gal. per hr. Each set working for 12 hrs.	1800 Rs.
	Working cost under this head per unit.	.1 Anna.
	$= \frac{1800 \times 16}{315,623} = .1$	

(Cost of operation & Supervision)
(Including that of transmission and distribution).

I. POWER House.

1. Junior Engineer.	Rs.160/- p.m.
1. Power House Foreman.	Rs. 95/- p.m.
4. Engine Drivers.	Rs.220/- p.m.
4 Switchboard operators.	Rs.220/- p.m.
1 Fitter.	Rs. 55/- p.m.
4 Power House Cleaners.	Rs.140/- p.m.
1 Chowkidar - Mali.	Rs. 35/- p.m.
1 Stores Lascar.	Rs.35/- p.m.
1 Office Watchmen (Night).	Rs. 35/- p.m.
	Rs.995/- p.m.
	i.e.Rs.11940/- Annual.

II. TRANSMISSION AND DISTRIBUTION:

1. Line Foreman.	Rs. 95/- p.m.
2 Linemen.	Rs.110/- p.m.
1 Wireman.	Rs. 40/- p.m.
4 Linemen Helpers.	Rs.140/- p.m.
1 Meter Reader.	Rs. 40/- p.m.
	Rs.425/- p.m.
	i.e. Rs.5100/- Annual.

III. Office Staff:

1 Junior clerk - Typist (Lower grade).	Rs.82/8/- p.m.
1 Store-keeper.	Rs.82/8/- p.m.
1 Bill Collector.	Rs.45/- pm.
2 peons.	Rs.50/- p.m.
	Rs.260/- p.m.
	i.e. Rs.3120/- Annual.

IV Overhead charges to meet the expenses of

i) District Head Quarters.	Rs.4112/- p.yr.
ii) Supervision of Bombay Head Office...	Rs. 500/- p.yr.

Cost of operation and Supervision (including that of Transmission & Distribution.).

Power House Staff.	Rs.11940/- p.yr.
Transmission & Distribution.	Rs.5100/- p.yr.
Office Staff.	Rs.3120/- p.yr.
Head Office Supervision. including	Rs.4612/- p.yr.
that of District H.Q.	Rs.24772/- p.yr.

Particulars.	Amount.
Cost per unit generated: Operation & Supervision. $\frac{24772 \times 16}{315623} = 1.25$	1.25 annas.
Water and stores: Water charges app.1500 Rs. Cost per unit generated $\frac{1500 \times 16}{315623}$ =.076.	0.076.
Repairs & Maintenance: Total cost Rs.1800/- Cost per unit $\frac{1800 \times 16}{315623} = 0.09$	0.09.
Incidentals and Insurance:	
Cost per unit say .05 anna working Cost under this heading $=\frac{.05 \times 315623}{16} = 986$	Say 900 Rs.

Running Cost:

	Working Cost.	Cost in: Anna per unit generat:-ed
Fuel Oil	17508	0.89
Lubricating Oil	1800	0.10
Operation and Supervision.	24772	1.25
Water & Stores.	1500	0.076
Repairs & Maintenance.	1800	0.09
Incidentals & Insurance.	900	.05
TOTAL:-	48280	2.456

Fixed Charges:	
Interest on Capital of Rs.361300/-: at 3½ % P.A.	12,648 Rs.
Depreciation by sinking fund method	13,365 ".
Total Depr. and Interest.	26,013 ".
Fixed charges per unit gent.will be $\frac{26013 \times 16}{315623}$	1.32 annas.
Total distributed cost per unit = 2.456 + 1.32 = 3.776	3.776 Annas.

G U L E D G U D.

Annual Revenue.

Item No.	P A R T I C U L A R S.	Amount.
1.	195 Municipal Street lights:	
	(1) 61 at a rate of 50/- each (big lights):	3,050 Rs.
	(2) 134 small lts. at 36/- each.	4,824 Rs.
2.	150 Bazar lights at 30/- Rupees per annum. i.e. 150 x 30 = 4,500 Rs.	4,500 Rs.
3.	General domestic lights at 6 annas per unit (34926 units).	13,097/4
4.	Government offices and buildings etc. at -/6/- per unit: 3456 KWH.	1,296
5.	Annual meter rentals at Rs.6/- p.a.629 meters (42 plus 7 plus 580)	3,774.
6.	Annual meter rentals at Rs.12/- p.a. for power services: 18 meters.	2,16.
7.	Cinema at 2 annas per unit - 10950 units.	1,368/12/-
8.	Fixed charges at Rs.21/- p.a. per H.P.-8 H.P.	1,68.
9.	Motive power:	
	i) At 2 annas per unit 183,450	22,931.
	ii) At 1¾ " " " 3,000	32[illegible].
10.	Fixed charges at Rs.21/-p.a. per H.P. i.e.140 H.P:	2,940
		58,494.

=

Total Revenue.	58494	Rs.
Less working cost.	48280	Rs.
Balance.	10214	Rs.
Total Depr. & Interest.	26013	Rs.
Loss in the 5th year.	- 15799	Rs.

Basis for the cost of fuel oil:
Rs.165/- per ton for the 1st year.
Rs.165/- - 5% i.e. 158 for 2nd year.
Rs.165/- -10% i.e. 148 for 3rd,4th & 5th year.
Rs.148/- - 5% i.e. 141/- for 6th, & 7th year.
Rs.148/- -10% i.e. 133/- for 8th & 9th year.
Rs.148/- -15% i.e. 126/- for 10th year.

GULEDGUD.

Basis for tariff rates:
As.6/- per unit for lighting. Rs.36/-p.a. for 30 W.St.lights
Rs.30/- p.a. for Bazar light.
As.2/- per unit for the first 2000 units per month for motive power & 1¾ As.per unit for the additional units plus a fixed charge of Rs.1-12-0 per month per B.H.P. connected.

Year	Probable Max. Demand in K.W	Probable Revenue. Lighting Rs.	Power Rs.	Total Rs.	Probable sale of units. Lighting KWH	Power KWH	Total KWH	Total Units Generated KWH	Approximate working cost. Rs.	Amount Dep. & Int. Rs.	Nett profit or loss. Rs.
1st.	30	6108	9317	15425	12783	65800	78583	105483	37290	26013	- 47878
2nd	60	15271	18634	33905	32953	131600	164553	204343	42875	26013	- 34983
3rd	74	22906	22362	45268	47937	157920	205857	251847	44743	26013	- 25488
4th	85	27488	25157	52645	57524	177660	235184	285572	46608	26013	- 19976
5th	94	30542	27952	58494	63915	197400	261315	315623	48280	26013	- 15799
6th	104	32832	30747	63579	68709	217140	285849	343837	*49807	Ø 30091	- 16319
7th	113	35123	33542	68665	73503	236880	310383	372051	*51288	Ø 30091	- 12714
8th	122	37413	36337	73750	78307	256620	334927	400273	*51520	Ø 30091	- 7861
9th	131	39704	39132	78836	83091	276360	359451	428480	*52943	Ø 30091	- 4198
10th	139	41231	41928	83159	86287	296100	376312	454856	*52948	Ø 30091	+ 120
				573726					478302	280520	- 185096

N.B. The figures marked Ø allow for depreciation and interest for additional set of 100 kW. i.e. Rs.4078/-
The figures marked * allow for the additional cost of fuel for paralled operation of two 100 kW.sets.

HBK/10.VI.47.

ABSTRACT OF SURVEY DETAILS OF THE TOWN

OF GULEDGUD - TALUKA BADAMI - DISTRICT BIJAPUR.

1.	Name of Generating Station.	... Guledgud.
2.	Name of Place.	... Guledgud.
3.	Number of Houses.	... 4,800.
4.	Population.	...20,603.
5.	Approximate length of Transmission line...	
6.	Approximate length of Distribution line...	3.25 miles.
7.	Approximate length of combined Transmission and Distribution.	... 0.75 mile.
8.	Probable night load in KW.	... 73.06. KW.
9.	Probable day load in KW.	... 94.08. KW.
10.	Probable sale of non-industrial(light & fan) units.	...33915 units.
11.	Probable sale of industrial units. year	...197400 units
12.	Non-industrial units per ~~month~~ per head of population(5th yr.working).	... 2.3 units.
13.	Non-industrial units per ~~month~~ year per head of population (1st yr.working).	... 0.46 units

NOTE NO. 3.

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NOTE NO. 3.

KAMATGI.

DETAILS REGARDING UNELECTRIFIED TOWNS.

1.	Name of Town, Taluka, District & Division.	Kamatgi (Hungund Taluka, District Bijapur)			
2.	Population in 1941 & per cent. increase in the last 10 years.	6995.			
3.	Principal industries of the population.	Hand-weaving.			
4.	Probable immediate load -, Non-industrial.	K.W.		Hrs. per year.	K/H/Yr.
		Day.	Night.		
1.	1. Municipal Street lights. 10 x .06 + 50 x .03		2.1	2184 -	4586
	2. Municipal Water & Sewage pumping.				
	3. Railway Station Load.				
	4. Light & Fan Load of Public Buildings e.g. Govt. offices, Courts, Hospitals Schools, etc., 5 x 20 x .03 L.F.50% Fans 4 x .06 L.F.50%.	.12	0.3	8 Hrs. (day load) for 300 days. 4 hrs. (Night load) for 300 days.	288. 360.
	5. Cinema Houses & Threatres.				
	6. Bazaar Lights. 40 x .04.		1.6	4 hrs.(Night load) for 365 days.	2336
	7. Hotels & Religious institutions. 20:20 x .04 Fans 5 x .06.	.3	0.8	6 hrs.(day load) for 240 days. 4 hrs.(Night laod) for 365 days.	432. 1168.
	8. General Domestic Lights & Fans. 100 x 3x.05% L.F. 25 x .06: 50% L.F. = 6 x 50/100. 3 KW. Fans.. 25 x 3/100 =.75 KW.	.75	3.0	6 hrs.(day load) for 180 days. 4 hrs.(Night load) 365 days.	810. 4380.
	9. Officers Residential & Public Places.				
	10. Festivals & Marriage occasions, etc.				1000
	Total..	1.17	7.8		15360.

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		K.W.			
5.	Probable load from Industrial Users.	Day.	Night.	Hrs. per day.	K.W.H./Yr.
	1. Cotton Mills.				
	2. Gin Presses.				
	3. Looms. 150 looms/80% L.F. : 112.5 H.P. / 90 H.P.	67.5		6 Hrs./day for 300 days.	121500.
	4. Oil Mills.				
	5. Rice Mills.				
	6. Flour Mills. 10 H.P.	7.5		6 Hrs/ day for 300 days.	13500.
	7. Agricultural Pumps.				
	8. Workshops.				
	9. Miscellaneous.				
	Total	75.0	--		135000.
6.	Probable total load immediately. Cf.	1.17	7.8		15360.
	Probable load in 3, 5 and 10 years and TOTAL.	76.17	7.8		150360.

19.04 (It is assumed that 25% of the day load may come in night).
26.84

Max. Demand = 80% (day) + 25% (Night)
= 61.00 + 1.95 = 63 K.W.

Suggest the installation of one additional set of 100 K.W. ~~at Culedgud~~.
and one set of 150 KW. in place of 50 KW. at Culedgud

HBK/16.V.47.

ENCLOSURE VIII.

Estimate for the Electrification of Kamatgi in Bijapur District.

Serial No.	Quantity	ITEMS	Rate	Per	Amount. Rs.
1		Machinery etc.	As per sub-estimate No.1 enclosed.		84,820.
2		Transmission and distribution system	As per sub-estimate No.II enclosed.		88,766.
3.		Transformers, Switchgear, Meters, street light fittings, House Services etc.	As per sub-estimate No.III. enclosed.		26,414.
					Rs. 200,000.

Additional Sets Considering Kamatgi.

Sub-Estimate No:I.

Serial No.	Quantity	ITEMS.	Rate	Per	AMOUNT Rs.
1.		a) Diesel Sets.			
	1	100 KW.			39000
	1	150 KW in place of 50 KW.			21,000
		b) Spares.			
2.		a) Transformers.			2,100
		Step up transformers 2 x 100 KVA. Transformers instead of 2x75 KVA.			
		b) 11 KV, switch gear for out-door switching station.			
3.		a) Switch Board - Panel for 100 KW.			6,000.
4.		Transport.			2,700.
5.		Erection.			4,000
					74,800.
		Contingency 5%			3,740.
					78,540.
		Work & Establishment 3%			
		Tools & Plants and Testing apparatus. 2%	8%		6,280.
		Establishment & General charges. 3%			
					84,820.

Transmission and Distribution - Kamatgi.

H.T. & L.T. = ¼ m. H.T. = 6¾ m.L.T. = 3 Miles.

Sub-Estimate No.II.

Serial No.	Quantity.		Rate	Per	Amount.
1	6¾ M.	11 kV.line on 5" x 3" x 11 lbs. 30' long R.S.Js for tanjent location, and 60 lbs./yd.rails 30' long for angles and dead ends. 6 SWG. copper conductors with earthing brackets complete.	6926	Mile	46751.
2	¼ M	11 kV.line on 5" x 3" x 11 lbs. 32' long R.S.Js. for tangent location and 60 lbs/yd.rails 33' for angles and dead ends. 150' span with 3 Nos.6 copper conductors for H.T.lines and with L.T.lines on the same poles consisting of 3 Nos. 8 copper and one of No.8 Neutral of three phase feeder, one of No.8 for St.lighting wire inclusive of one run of No.8 G.I. wire as earth wire.	14410	Mile	3602.
3	¾ M	L.T.line with 5" x 3" x 11 lbs. R.S.Js. 30' for tangent locations and 60 lbs./yd rails 30' for angles and dead ends.150' span with 3 Nos. No.2 SWG. and one of No. 4 SWG.Copper for phases and Neutral of L.T.feeder one of No.8 SWG copper for street lighting main and one of No.8 SWG.G.I.wire as earth wire.	11780	Mile	8835
4	¼ M	Same as Item No.3 above except that L.T.feeder to be with three Nos. No.4 SWG. for phases and one of No.6 SWG.copper for Neutral.	9975	Mile	2494.
5	1 M	Same as Item No.3 above except that L.T.feeder to be with three Nos. No.6 SWG.for phases and one of No.8 SWG.copper for Neutral.	8655	Mile	8655
6	1 M	Same as in Item No.3 above except that L.T.feeders to be with all four wires of No.8 SWG.copper.	7940	Mile	7940.
					78277.
		Contingency 5%			3913.
					82190.
		Works Establishment 3% Tools and Plants and Testing apparatus. 2% Establishment and general charged. 3%	8%		6576.
					88766.

Transformers, Switchgear, Meters, Street light fittings, House services etc. --- Kamatgi.

Sub-Estimate No.III.

Serial No.	Quantity	ITEMS.	Rate	Per	Amount.
1.	2	3	4	5	6
		I Transformers.			
1	1	11 kV/400 V-3 phase, 50 cycles, outdoor transformer, 75 KVA.	3800	Each	3800.
		Transport and erection.	Lump Sum.		200.
		II Special Structures.			
2	1	Transformer structure.	1500	Each	1500.
3	1 No.	D.P.Isolating structure.	878	Each	878.
4	2 Nos	Road Crossing Structures.	290	Each	580.
5	1	Take off and sub-station structures at Power House.			
		III Switchgear Erected.			
6	3 Nos	11 kV Gang Operated switches.	550	Each	1650.
7.	1 set	11 kV triple pole fuses.	275	Each	275.
8.	1 set	11 kV lightning Arresters.	490	Each	490.
9.	1 set	L.T.Lightning Arrester.	80	Each	80.
10.	1 set	L.T.Switchgear.	1500	Each	1500.
		IV Street Light fittings.			
11	60 Nos	Street Light fittings erected.	30	Each	1800
		V House Service connections erected.			
12	125 Nos.	House Service connections.	75	Each	9375.
13	6 Nos	Power Services.	220	Each	1320.
					23448.
		Contingency 5%			1172.
					24620.
		Works Establishment.	3%.		
		Tools and plants and testing apparatus.	2%.	18%	1794.
		Establishment and general charges.	3%.		
					26414.

DEPRECIATION AND INTEREST.

Kamatgi.

Item	PARTICULARS.	Capital in Rs.	Amount of Depreciation in Rs.
1.	100 KW. Diesel Generating set. 150 KW. in place of 50 KW. including erection.	64,000	3,441.
	S.F. .05377.		
2	Transformer, switch-gear etc.	10,800	402.
	S.F. .03722		
3.	Transmission and distribution lines.	78,277	2,147.
	S.F. .02743.		
4.	Transformers, switchgear, street-light fittings, House Services etc.	16,598	618.
	S.F. .03722.		
5.	Meters.	6,850	368.
	S.F. .05377		
			6,976.
	Interest at 3½% on capital of Rs.200000		7,000.
	Depreciation amount.		6,976.
		Total:- Rs.	13,976.

Running Cost:

Non-Industrial units.	..	15360
Industrial units.	..	135000
Total units sold.	..	150360
Transmission & Distribution loss at 15%.	..	22555.
. . Total units generated.	..	172915.

Cost of fuel:

Fuel consumption per unit generated	..	.84 lbs.
Total quantity of fuel oil required for the year.	..	64.8 tons.
Working cost due to fuel oil at Rs.148/- per ton.	..	9590 Rs.
Additional cost for parallel operation, which may be required at intervals for transfer of loads etc.	..	888
Cost of lubricating oil.	..	
340 gallons at Rs.3/- per gall. (working of 100 kW.set for 12 hrs.at .077 gal.per hr. (340).	..	1020.

List of staff:

For Transmission & Distribution).	..	
2 Line-Men.	..	110/-
5 Line-Men Helpers.	..	175/-
		Rs. 285/-
Annual Cost.		Rs. 3420/-

Incidental and Insurance:-

Cost per unit say .05 working cost under this heading.	..	600

Water and Stores:

Cost per unit say .07 working cost under this reading (812).	..	800

Repairs and maintenance cost per unit say .09 — 1000 Rs.

Working Cost :-	Amount.	
Fuel oil.	10478.	
Lubricating oil.	1020.	
Operation & Supervision.	3420.	
Water and stores.	800.	
Repairs and Maintenance.	1000.	
Incidental & Insurance.	600.	
	17318	17318

Fixed charges per unit Generated.

$\frac{13976 \times 16}{172915.}$ = 1.3 annas. — 1.3 annas.

Total Distributed Cost per unit will be :

$= 1.3 + \frac{17318 \times 16}{172915}$

$= 1.3 + 1.54 = 2.84$ — 2.84 Annas per unit.

Annual Revenue:-

Item No.	Particulars.	Amount.
1.	Municipal Street Lights at Rs.36/-P.A. 60 Pts.	2160
2.		
3.	General Domestic lights at -/6/- annas per unit (7790) units).	2921-8
4.	Bazar lights at 30/- Rs.P.A. per lamp (40).	1200
5.	Govt. offices, buildings etc. at /6/ans.per unit 648 units.	243
6.	Annual meter rentals at Rs.6/- p.a. (125)	750.
7.	Annual meter rentals at Rs.12/- P.A. (14).	168
	Motive Power:	
	At -/2/- annas per unit (upto 2000 units per month) 135000.	16875.
	Fixed charges at Rs.21/- P.A. per H.P. (100).	2100.
		26417.

Annual Revenue.	26417
Less working cost	17318
Balance.	9099
Less depreciation & Interest.	13976.
Nett loss in the 5th year of working.	4877.

GULEDGUD & KAMATGI.

Year	Probable Max. demand in K.V.	Probable Revenue. Lighting Rs.	Power Rs.	Total Rs.	Probable sale of units. Lighting KWH	Power KWH	Total KWH	Total Units Generated KWH	Approximate working cost. Rs.	Amount Dep. & Int. Rs.	Nett profit or loss. Rs.
1st	51	7563	15698	23261	15855	110800	126655	160765	47512	35018	- 59269.
2nd	101	18908	31396	50304	39637	221600	261237	315534	50894	* 39989	- 46889.
3rd	125	28362	37676	66038	59456	265920	325376	389294	50308	* 39989	- 34059.
4th	142	34034	42386	76420	71348	299160	370508	441194	50668	* 39989	- 26637.
5th	157	37816	47095	84911	79275	332400	411676	488538	50928	* 39989	- 20676.
6th	174	40652	51805	92457	85220	365640	450860	533600	50698	* 39989	- 14190.
7th	189	43488	56515	100003	91166	398880	490046	578663	50805	* 39989	- 9041
8th	204	46324	61225	107549	97112	432120	529232	623729	50772	* 39989	- 1972.
9th	219	49160	65935	115095	103058	465360	568418	668792	50743	* 39989	+ 3313.
10th	233	51049	70643	121692	107023	498600	605623	711577	50740	* 39989	+ 9693.
				837730					506538	394919	- 199787.

The Figures marked Ø allow for the additional cost of fuel for pa[illegible] operation.

The figures marked * allow for interest and Dep. for the third set [illegible]50 KW from the second year i.e.Rs.4971

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NOTE NO. 4.

NOTE NO. 4.

DETAILS REGARDING UNELECTRIFIED TOWNS.

-Amingad

1.	Name of Town, Taluka, District & Division.	Hungund, [illegible] Sulibhavi and Ilkal, Hungund Taluka, District Bijapur, Southern Divn.			
2.	Population in 1941 & per cent. increase in the last 10 years.	34000; 18% increase.			
3.	Principal industries of the population.	Sari manufacturing, Agricultural and Cottom Ginning			Cotton Ginning Centre.
4.	Probable immediate load -Non-industrial.	Average load in K.W.		Hrs. per year.	KWH/Yr.
		Day.	Night.		
	1. Municipal Street lights. 50 x .06 + 240 x .03	-	10	2184	22277
	2. Municipal Water & Sewage pumping.	-	-	-	-
	3. Railway Station Load.	-	-	-	-
(30)	4. Light & Fan Load of Public Buildings e.g. Govt. offices, Courts, Hospitals, Schools, etc. Lights 120 x .03 L.F. 50% Fans 25 x .06, L.F. 50%.	a 0.75	b [illegible]	a 8 hrs. (day load) for 300 days. b 4 hrs. (night load) for 300 days.	1800. 2160.
	5. Cinema Houses & Theatres. 2 : 8 H.P. each at Ilkal and Sulibhavi.	-	1	5 hrs. / day for 365 days.	21900.
(200)	6. Bazaar Lights. 200 x .04 lights.	-	[illegible]	4 hrs. (Night load) for 365 days.	11680.
(80)	7. Hotels & Religious Institutions. Lights 80 x .04. 33 x .06 Fans.	a 2.00	b [illegible]	a 6 hrs. (day load) for 240 days. b 4 hrs. (Night load) for 365 days.	2880. 4672.
(850)	8. General Domestic Lights & Fans. Lights 3 x 850 x .02 L.F. 50%; Fans 150 x .06 L.F. 50%.	a 4.50	b 2	a 6 hrs. (day load) for 180 days. b 4 hrs. (night load) for 365 days.	4860. 37230.
	9. Officers Residential & Public Places.	(Included in 4		-	-
	10. Festivals & marriage occasions, etc.			-	20
	Total--	7.25	6	-	111459.

5. Probable load from Industrial Users.	K.W. Day.	K.W. Night.	Hrs.per day.	K.W.H./Yr.
1. Cotton Mills.				
2. Gin Presses.				
3. Looms: 13 connections: 140 Looms: 105 H.P.Load Factor 80% i.e. 84 H.P.-Ilkal.	62.66	-	6 hours per day for 300 days	112788
4 connections: 40 Looms: 30 H.P.Load Factor 80% i.e. 24 H.P. Sulibhavi.	18.00	-	6 Hours per day for 300 days.	32400.
4. Oil Mills.	-	-	-	-
5. Rice Mills.	-	-	-	-
6. Flour Mills. 1-10 H.P.Ilkal.	7.5	-	6 hours per day for 300 days.	13500.
1-10 H.P.Sulibhavi.	7.5	-	6 hours per day for 300 days.	13500.
7. Agricultural Pumps.	-	-	-	-
8. Workshop.s	-	-	-	-
9. Miscellaneous.	-	-	-	-
Total	95.66	-		172188.

10. Probable total load immediately.

Non-Industrial Day.7.25 Night.60.7

Industrial. 95.66 -

103.91 60.7

Load Factor for Day Load. =80% i.e. 83.13 kW.

Max.Demand= 83.13+25% of night load.

=83.13 + 15.2

=98.33 KW.(Day).

(It is assumed that) 60.7 +25% of day time load may com (at night.

=60.7+25.98.

=86.68 KW.(Night).

Suggest the installation of 2 sets, each 100 KW,440/400 volts,3 phase, 50 cycles, Diesel Alternator set in the beginning.

Schedule No. V.

MAIN ESTIMATE.

Electric Grid Department,
Diesel Nursery Schemes.

Fund Head
Major Head
Minor Head

Estimate framed in the office of the Electrical Commissioner with the Government of Bombay of the probable expense that will be incurred in the electrification of Ilkal, Hungund, & Sulibhavi (Amingad) in Hungund Taluka Bijapur District.

Rupees five lacs seventy-four thousand and seven hundred only.

Rs.5,74,700/-

Serial No.	Quantity	ITEMS.	Rate	Per	Amount. Rs.
1		Power House, Machinery etc.	As per sub-Estimate No: I enclosed.		251500
2		Transmission and Distribution System.	As per sub-Estimate No: II Enclosed		200900
3		Transformers, switchgear, meters, street light fittings, House services, etc.	As per sub-Estimate No: III Enclosed		122300
		Total:			574700

2,51,500
53,520 p.m.
3,05,020

2,00,000
71,759 p.m.
2,72,659

1,22,300
16,821 p.m.
1,39,121

7,16,800

Sub-Estimate.

Part I. DIESEL POWER STATION

Ilkal, Hungud, Saibhavi-Amingad.

Item No.	Quantity	ITEMS.	Rate	Per	AMOUNT. Rs.
1	2	3	4	5	6
1		Land - Cost of Land for Powerstation			1,500
2		(a) Powerstation Building and foundation for Engines, fencing, preparation of ground etc.			50,000
	1	(b) Well, piping & reservoir.			4,000
3.		Set of fuel oil storage tanks with Piping.			5,750.
4	1	5 Ton Crane complete with Gantry Beams.			5,000
5	2x100 KW	(a)Diesel Sets.			80,900
		(b)Spares.			3,000
6		Coolers & Accessories.			
	1	(a) Cooler.			
	2	(b) Heat Exchanger.			11,500
	2	(c) Circulating Pumps.			
		(d) Pipes, valves, fittings.			
	1	(e) Well Pumping & Reservoir.			1,750.
7	1	(a) Petrol/Paraffin Engine compressor with Emergency lighting set.			4,600.
	1	(b) Electrically driven compressor & piping.			Included in (a) above.
8	2x100 KVA.	(a)Transformers.			8,000
		(b) 11 kV Switchgear for outdoor switching Station.			3,000
		(c) Electrical Spare Parts.			2,000
9		(a) Switchboard.			18,700
		(b) Voltage Regulator.			1,500
10		Set of interconnecting cables.			3,500
11		Power station lighting.			1,000
12		Workshop Equipment.			5,000
13		Earthing.			1,000.
14		Transport.			3,000.
15.		Erection including labour.			7,500.
		Contingency excluding cost of land 5%			11,000.
		(a) Works Establishment - 3% (b) Tools, Plant, Testing Apparatus. - 2% (c) Establishment and general Charges - 3%			18,300.
					2.51.500.

Sub-estimate.

PART IIB TRANSMISSION AND DISTRIBUTION

Ilkal, Hungund & Sulibhavi (Amingad

HT - 15 miles.
HT/LT - 3/4 mile.
LT - 7½ Miles.

Item No.	Quantity	Items.	Rate	Per	Amount Rs.
1	2	3	4	5	6
1	15 Miles	11 kV H.T.line with 5" x 3" x 11 lbs.R.S.Js. 30' for tangent locations and 60 lbs./Yd. Rails 30' for angles and dead ends, 300' span, with 3 Nos. of No.6 SWG.copper conductors and earthing brackets complete	6926	Mile	1,03,890.
2	-	11 kV Line on 5" x 3" x 11 lbs.-32'long R.S.Js for tangent locations and 60 lbs./Yd Rails 33' for angles and deadends. 150' span with 3 Nos.of No.6 SWG copper conductors for H.T.lines and with L.T. lines on the service poles consisting of: 3 Nos.-No.2 SWG.copper and one of No.4 SWG.copper for 3 phase feeder, one of No.8 for street lighting wire inclusive of one run of No.8 G.I. wire as earth wire	18260	Mile	NIL
3	½ Mile	Same as in Item 2 above except that L.T. feeders to be with 3 Nos. of No.6 SWG. copper and one of No.8 SWG.copper wire for phases and neutral respectively.	15130	Mile	7,565.
4	¼ Mile	Same as in Item 2 above except that L.T. feeders to be with all four of No.8 SWG. copper.	14410	Mile	3,603.
5	½ mile	L.T.Line with 5" x 3" x 11 lbs.R.S.Js. 30' for tangent locations and 60 Lbs./Yd: (Data.VI), Rails, 30' for angles and dead ends, 150' span with 3 Nos. of No.2 SWG. and one of No.4 SWG.copper for phases and neutral of L.T.feeder one of No.8SWG: copper for street lighting main and one of No.8 SWG.G.I.wire as earth wire.	11780	Mile	5,890.
6	¾ Mile	Same as in Item No.5 above except that L.T.feeder to be with 3 Nos. of No.4 SWG: for phases and of No.6 SWG.copper for Neutral.	9975	Mile	7,481.
7	2 Miles	Same as in Item No.5 above except that L.T.feeder to be with 3 Nos. of No.6 SWG: for phases and one of No.8 SWG.copper of: neutral.	8655	Mile	17,310.
8	2 Miles	Same as in Item No.5 above except that L.T.feeders to be with all the four wires of No.8 SWG. copper.	7940	Mile	15,880.
9	2½ Miles	Same as in Item No.5 above,except that L.T.feeders to be single phase with No.8: SWG.copper for phase & neutral.	6250	Mile	15,625.
		Sub-Total:-			1,77,244.
		Contingencies-- -- --- 5%			8,862.
		Works Establishment .. 3%			
		Tools, Plant & Testing Apparatus 2%.			14,794.
		Establishment & General charges 3%.			
		GRAND TOTAL:			2,00,900.

Sub-Estimate.

Part III: Transformers, Special structures, switchgear, Street lights, House Service Connections etc.

Ilkal, Hungund & Sulibhavi (Amingad).

Item No.	Quantity	ITEMS.	Rate	Per	AMOUNT. Rs.
1	2	3	4	5	6
		I TRANSFORMERS:			
1	1	11 kV/400 V - 3 phase, 50 cycles, outdoor Transformers. 50 KVA.	3000	each	3,000
2	2	---do---- 25 KVA.	2200	each	4,400
3		Transport and Erection.	Lump Sum.		300
		Sub-Total			7,700
		II Special Structures.			
4	3	Transformer Structures.	1500	each	4,500
5	1	D.P. Isolating Structure.	878	each	878
6	6	Telegraph crossing structures	290	each	1,740
7	1	Take-off and substation structure at Power house.	2000	each	2,000
		Sub-Total			9,118
		III Switchgear Erected:			
8	6	11 kV Gang operated switches.	550	each	3,300
9	3 sets	11 kV Triple pole fuses.	275	set	825
10	3 sets	11 kV lightning Arrestors.	490	set	1,470
11	3 sets	L.T. ---do---	80	set	240
12	3 sets	L.T. Switchgear.	1500	set	4,500
		Sub-Total			10,335
		IV Street light fittings.			
13	290	Street light fittings erected.	30	each	8,700
		V House service connections Erected.			
14	960	House service connections.	75	each	72,000
		Total of Sub-Total			1,07,853
		Contingencies. 5%.			5,393
		Works Establishment --- 3%. Tools, Plant & Testing Apparatus 2%. Establishment & General Charges 3%.			9,054
		GRAND TOTAL:			1,22,300

DEPRECIATION AND INTEREST.

Ilkal, Hungund and Sulibhavi-Amingad.

Serial No.		Capital Rs.	Amount of Depreciation Rs.
1	Powerhouse Building well, Fuel Oil storage tanks, Crane, Coolers and Accessories.	72,000	2,680.
2.	Diesel sets, Emergency lighting set, Regulator etc. S.F. 0.05377	1,03,500	5,565
3.	Transformers, Switchgear, Switchboard station lighting, workshop, Interconnting cables, Earthing etc. S.F. 0.03722	45,200	1,682
4.	Transmission and Distribution. S.F. 0.02743.	1,77,244	4,862.
5.	Transformers, special structures, switch-gear, street lighting fittings, & house service connections etc. S.F. 0.03722.	58,853	2,191.
6.	Meters only. S.F. 0.05377.	49,000	2,635.
7.	Total:-		19,615.
8.	Interest on capital of Rs.5,74,700. @ the rate of 3½%.	5,74,700	20,115.
9.	Total Amount of Interest and Depreciation		39,730.

1. UNITS GENERATED:

Probable sale of non-Industrial units.	..	89,559
Probable sale of units due to Cinema.	..	21,900
Probable sale of Industrial Units.	..	172188.
Units generated for cooling water pumping sets, station lighting and compressor etc.	..	13,140.
Transmission and Distribution loss 15%.	..	44,518.
Total number of units generated.	..	341,305.

2. COST OF FUEL:

Fuel consumption per unit generated.	..	0.84 lb/KW
(a) Cost of fuel oil per unit generated, fuel oil at Rs.148/- per ton.	..	0.89 Anna.
(b) Cost of fuel oil per unit generated, fuel oil @ Rs.165/- per ton.	..	0.990 "
Total quantity of fuel oil required for the year.		128 tons.
(a) Working cost under this heading.	..	18943.
(b) Working cost under this heading.	..	21120.

3. COST OF LUBRICATING OIL:

Consumption for the year taking 0.077 Gallon per hour of lubricating oil for 100 KW each.	..	675 gallon
Cost per unit generated @ Rs.8/- per gallong.	..	0.102 Anna
Working cost under this heading.	..	Rs.2,025.

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Cost of operation and Supervision (including that of transmission and distribution).

POWER HOUSE:

1. Junior Engineer.	...	Rs.160/- p.m.
1. Power House Foreman.	...	Rs. 95/- p.m.
4. Engine Drivers.	...	Rs.220/- p.m.
4 Switchboard Operators.	...	Rs.220/- p.m.
1 Fitter.	...	Rs. 55/- p.m.
4 Powerhouse cleaners.	...	Rs. 140/- p.m.
1 Chowkidar - Mali.	...	Rs. 35/- p.m.
1 Stores Lascar.	...	Rs. 35/- p.m.
1 Office Watchman (Night).	...	Rs. 35/- p.m.
		Rs.995/- p.m.
		i.e. Rs.11940/- p. A.

TRANSMISSION AND DISTRIBUTION:

1 Line Foreman.	...	Rs. 95/- p.m.
4 Linemen.	...	Rs.220/- p.m.
2 Wiremen.	...	Rs. 80/- p.m.
10 Linemen Helpers.	...	Rs.350/- p.m.
1 Meter Reader.	...	Rs. 40/- p.m.
		Rs.785/- p.m.
		i.e. Rs.9420/- p.A.

OFFICE STAFF:

1 Junior Clerk Typist (Lower Grade).	...	Rs. 82/8/- p.m.
1 Storekeeper.	...	Rs. 82/8/- p.m.
1 Bill Collector.	...	Rs. 45/- p.m.
2 Peons.	...	Rs. 50/- p-m.
		Rs.260/- p.m.
		i.e. Rs.3120/- p.A.

OVERHEAD CHARGES TO MEET THE EXPENSES OF

i) District Head Quarters.	...	Rs.4112/- p.A.
ii) Supervision of Bombay Head Office.		Rs. 500/- p.A.
		Rs.4612/- P.A.

Total:- Rs.29,092/- P.A.

COST OF OPERATION AND SUPERVISION:
(Including that of Transmission and Distribution).

Power House Staff.	...	Rs.11,940.
Transmission & Distribution.	...	Rs. 9,420.
Office Staff.	...	Rs. 3,120.
Head office supervision including that of District H.Q.	...	Rs. 4,612.
Total	...	Rs.29,092.

Cost per unit generated will be... Re.1.36 Annas.

WATER AND STORES:

Cost per unit say 0.07 Anna. ... 0.070 Anna.

Working cost under this heading... Rs. 1,500.

Repairs and Maintenance:

Cost per unit say 0.084 Anna. ... 0.084 Anna.

Working cost under this heading... Rs. 1,800.

Incidentals and Insurance:

Cost per unit say 0.05 anna. ... 0.05 Anna.

Working cost under this heading... Rs. 1,000.

HBK/10.VI.47.

RUNNING COST.

	Working cost. Rs.	Cost in Annas per unit generated.
1. Fuel Oil.	18,943	0.89
2. Lubricating oil.	2,050	0.102
3. Operation and Supervision.	29,092	1.36
4. Water and stores.	1,500	0.07
5. Repairs and maintenance.	1,800	0.084
6. Incidentals and Insurance.	1,000	0.05
Total working cost:-	54,385	2.556

Fixed Charges:

Interest on capital of Rs.574700 @ 3½% will be ... Rs.20,115.

Depreciation by sinking fund method will be ... Rs.19,615.

Total amount of depreciation and Interest will be ... Rs.39,730.

Fixed charge per unit generated will be.. Rs. 1.83 Annas

Total distributed cost per unit will be (2.556 plus 1.83) .. 4.39 Annas

4.4 Annas (say)

HBK/10.VI.47.

ANNUAL REVENUE:

240	Municipal Street lights @ Rs.36/- P.A.(30 W).	..Rs.8640.
50	Municipal Street lights @ Rs.50/- P.A.(60 W).	;.Rs.2500.
51642	General Domestic ~~lights~~ lighting units @ 6 Annas/unit.	..Rs.19366.
200	Bazar lights @ Rs.30/- P.A. per Lamp.	..Rs.6000.
3960	Government offices, buildings etc. @ 6 annas per unit.	..Rs.1485.
960	Annual meter Rentals @ Rs.6/- p.A.	..Rs.5760.
20	Annual meter Rentals @ Rs.12/- P.A.	..Rs. 240.
21900	Cinema units @ annas 2 per unit.	..Rs.2737.

MOTIVE POWER:

172188	@ 2 annas per unit (upto 2000 units).	..Rs.21524.
	@ 1¾ annas per unit (above 2000 units)	.. --
171	Fixed charge @ Rs.21/- P.A. per H.P.	..Rs.3591.
	Total:-	..Rs.71843.

Annual Revenue.	..Rs.71843
Less working cost.	..Rs.54385
Balance.	..Rs.17458
Less Interest and depreciation.	..Rs.39730.
Nett loss in the 5th year of working.	..Rs. 22272

HBK/10.VI.47.

Abstract of preliminary estimate for a power station comprising two Diesel Engine sets, Transmission and Distribution etc. in connection with the proposed. Electrification of Hungund, Ilkal and Sulebhavi(Amingad) Hungung Taluka, District Bijapur.

1. Diesel Powerstation.	..Rs.251500.
2. Pole mounted substations (4 only)	..Rs. 29600
3. Transmission & Distribution 16 miles transmission & 1 mile 8 miles Distribution. combined transmission & Distribution.	..Rs.205000.
4.Street Lighting.	..Rs.13800
5. Service Lines.	..Rs.74800.
	Rs.574700

Profit and Loss Account for the 5th year.

S.No.	Heading.	Cr. Rs.	Dt. Rs.	Balance Rs.
1.	By Non-Industrial Load.	43751	-	-
2.	By Industrial Load.	28092	-	-
3.	By Interest on capital.	-	20115	-
4.	By Depreciation.	-	19615	-
5.	By Working cost.	-	54385	-
	TOTAL:-	71843	94115	-22272.

HBK/10.VI.47.

ILKAL, HUNGUND & SULIBHAVI.

Basis for the cost of Fuel Oils:
Rs.165/- ton for the 1st year.
Rs.165/- ton-5% for i.e. Rs.158/- for 2nd year.
Rs.165/- ton-10% i.e. 148/- for 3rd,4th & 5th year.
Rs.148/- ton-5% i.e. Rs.141/- for 6th & 7th year.
Rs.148/- ton-10% i.e. Rs.133/- for 8th & 9th year.
Rs.148/- ton-15% i.e. Rs.126/- for 10th year.

Basis for tariff rates: 6 annas/unit for lighting
Rs.36/- p.a. for street lights of 30 watts each.
Rs.30/- p.a. for Bazaar lights each.
2 Annas/unit for the 1st 2000 units per month for motive power and 1½ annas/unit for the additional units plus a fixed charge of Rs.1-12-0 per month per B.H.P. connected.

Year	Probable max. demand in K.W.	Probable Revenue. Lighting	Power	Total	Probable sale or units. Lighting	Power	Total	Total units Generated	Approximate working cost	Amount Dep. & Int.	Nett profit or loss.
1st	31	8750	9364	188114	17912	64696	82608	110110	42256	39730	- 63872.
										~~40824~~	- ~~64828~~.
										39730	- 47331.
2nd	63	21875	18728	40603	44780	129392	174172	215409	48204	~~40824~~	- ~~xxxxxx~~
3rd	78	32813	22474	55287	67170	155270	222440	270917	50479	39730	- 34922.
4th	89	39376	25283	64659	80603	174679	255282	308685	52580	39730	- 27651.
5th	98	43751	28092	71843	89559	194088	283647	341305	54385	39730	- 22272.
6th	108	48126	30901	79027	98515	213497	312012	373925	* 56028	Ø 48808	- 20809.
7th	118	52501	33710	86211	107471	232906	340377	406545	* 57748	Ø 43808.	- 15345.
8th	127	55782	36520	92302	114188	252314	366502	436588	* 58052	Ø 43808	- 9558.
9th	137	59064	39329	98393	120905	271723	392628	466633	* 59475	Ø 43808	- 4880.
10th	146	62345	42138	104483	127622	291132	418754	496678	* 59634	Ø 43808	+ 1041.
				710922					538841	417690	- 245609.

N.B.Figures marked * include the cost of fuel oil for parallel operation of two sets of 100 kW each.

Figures marked Ø include the amount of depreciation & interest for one additional 100 kW set i.e. Rs4078/-

HBK/8.VIII.47.

Abstract of survey details of the towns of Hungund, Sulebhavi and Ilkal, Hungund Taluka, District Bijapur, Southern Division.

1.	Name of Generating station.	...	ILKAL.		
2.	Name of the Place.	Hungund (a)	Sulebhavi (b)	Ilkal (c)	Total. fora,b,c
3.	Number of houses.	1870	2474	4546	8890
4.	Population in 1941.	6750	9550	17700	34000.
5.	Approximate length of transmission in miles.		8	8	16.
6.	Approximate length of Distribution lines in miles.	1.6	2.1	4.3	.8.
7.	Approximate length of combined transmission and Distribution in miles.	0.3	.4	0.3	1.0
8.	Probable night load in KW.	12	26	48	86
9.	Probable day load in KW.	6	27	65	98
10.	Probable sale of non-industrial units.	20873	24634	44051	89559
11.	Probable sale of Industrial units.	...	56850	137238	194088
12.	Non-Industrial units ~~per month~~ per year per head of population. (5th year working).	3.09	2.6	2.5	2.63

HBK/10.VI.47.

NOTE No. 5.

NOTE No. 5

DETAILS REGARDING UNELECTRIFIED TOWNS.

GUDUR

		K.W.		Hrs.per day.	KWH/Yr.
1.	Name of Town, Taluka, District & Division.	Gudur, Hungund Taluka, District Bijapur.			
2.	Population in 1941 & per cent. increase in the last 10 years.	3,629.			
3.	Principal industries of the population.				
4.	Probable immediate load - Non-industrial.	Day	Night.		
	1. Municipal street lights. 10 x .06 + 30 x .03	a.	b. 1.5	2184	3276.
	2. Municipal Water & Sewage pumping.				
	3. Railway Station load.				
	4. Light & Fan load of Public Buildings e.g. Govt. offices, Courts, Hospitals Schools etc. 4 connections : 16 x .03 L.F.50% Fans 4 x .06 L.F.50%	a. .12	b. .24	a. 8 hrs.(day) for 300 days. b. 4 hrs.(Night) for 300 days.	288 288.
	5. Cinema Houses & Theatres.				
	6. Bazzar Lights. 20 x .04 = 0.8		b. .8	b. 4 hrs. for 365 nights.	1168.
	7. Hotels & Religious Institutions. Connections 10: 10 x .04 : Fans 4 x 06.	a..24	b. .4	a. 6 hrs.(day) for 240 days. b. 4 hrs.(Night) 365 days.	345. 584.
	8. General Domestic lights & Fans: Connections. 50: 50 x 3 x .02: L.F.50%. Fans 10 x .06 x 50 L.F.	a. .30	b. 1.5	a. 6 hrs.(day) for 180 days. b. 4 hrs.(Night) for 365 days.	324. 2190.
	9. Officers Residential & Public Places.				
	10. Restivals and marriggex occasions, etc. TOTAL	0.66	4.44		8463

Total.....

99 (1)

5. Probable load from Industrial Users.	: K.W.		Hrs.per day.	K.W.H./Yr.
	: Day a	Night. b		
1. Cotton Mills.	:			
2. Gin Presses.	:			
3. Looms. 5 Connections = 50 looms. 37.5 H.P.Load Factor 80% 30 H.P.	: 22.5		(a) 6 hrs. for 300 days.	40500
4. Oil Mills.	:			
5. Rice Mills.	:			
6. Flour Mills.	:			
7. Agricultural Pumps.	:			
8. Workshops.	:			
9. Miscellaneous.	:			
Total.	: 22.5			40500.

6. Probable total load immediately. :

7. Probable load in 3, 5 and 10 years and LF:

8. Remarks. :

	Day	Night.
Non industrial load.	.66	4.44
Industrial Load.	22.5	.....
Total: -	23.16	4.44.

Load factor for day load=80% i.e.18.52 KW.
Maxm. demand=18.52+25% of Night load.
= 18.52 + 1.10
= 19.62 say 20 KW.
Suggest the installation of one additional set of 100 KW. ~~at Ilkal~~.

(It is assumed that 4.44 + 25% of day time load may come at night.
= 4.44 + 6.
= 10.44 KW. (Night).

Estimate for the Electrification of
Gudur, in Bijapur District.

Serial No.	Quantity.	ITEMS.	Rate	Per	Amount. Rs.
1		Machinery etc.	As per sub-Estimate No. 1, enclosed:		53,520.
2		Transmission and Distribution System.	As per sub-Estimate No. II enclosed.		71,759.
3.		Transformers, switchgear, Meters, Street light fittings, House services etc.	As per sub-Estimate No. III enclosed:		16,821.
			Rs.		1,42,100.

Additional Set necessary considering Gudur.

Sub-Estimate No.I.

Serial No.	Quantity	ITEMS.	Rate	Per	Amount.
1.		a) Diesel Set.			
	I	100 KW.			39,000
2.	1	Switch Board.			5,000
3.		Transport.			1,200.
4.		Erection.			2,000.
					47,200.
		Contingency 5%			2,360.
					49,560.
		Works Establishment 3%			
		Tools and plants and Testing apparatus. 2%	8%		3,960.
		Establishment & General Charges. 3%			
					53,520.

Transmission and Distribution - GUDUR.

H.T. = 8 Miles, L.T. = 1 Mile.

Sub-Estimate No.II.

Serial No.	Quantity	ITEMS.	Rate	Per	Amount.
1	8 M	11 kV line on 5" x 3" x 11 lbs. 30' long R.S.Js. for tangent locations and 60 lbs./yd. rails 30' long for angles and dead ends 300' span with 3 Nos.6 SWG.copper conductors with earthing brackets complete.	6926	Mile	55,408.
2	½ M	L.T.Line with 5" x 3" x 11 lbs. R.S.Js. 30' for tangent locations and 60 lbs/yd. rails 30' for angles and dead ends. 150' span with 3 Nos.No.6 SWG.and one of No. 8 SWG.copper for phases and neutral of L.T.feeder for street lighting main and one of No.8 SWG. G.I.wire as earth wire.	8655	Mile	4,328.
3	¼ M	Same as in Item No.2 above except that L.T.feeders to be with all four wires of.No.8 SWG.copper.	7940		1,985.
4	¼ M	Same as in Item No.2 above except that L.T.feeders to be single phase with No.8 SWG.copper for phase ~~with No.8 SWG. copper for phase~~ and Neutral..	6250	Mile	1,562.
					63,283.
		Contingency 5%			3,164.
					66,447.
		Works Establishment. 3%			
		Tools and Plants and Testing apparatus. 2%	8%		5,312.
		Establishment & General charges. 3%			
					71,759.

Transformers, Switchgear, Meters, Street Light Fittings House Services etc. - GUDUR.

Sub-Estimate No.III.

Serial No.	Quantity	ITEMS.	Rate	Per	Amount.
		I Transformers:			
1	1	11 kV/400 V-3 phase, 50 cycles, Out-door transformer, 25 KVA.	2200	Each	2,200.
		Transport and Erection.	Lump Sum		100.
		II Special structures.			
2	1	Transformer structure	1500	Each	1,500.
3.					
4.	2 Nos	Road Crossing structures.	290	Each	580.
5.	1	Take off and sub-station structure at Power House.			
		III Switchgear Erected.			
6.	2 Nos	11 kV Gang operated switches.	550	Each	1,100.
7.	1 set	11 kV Triple-pole fuses.	275	Each	275.
8.	1 set	11 kV lightning Arresters.	490	Each	490.
9.	1 set	L.T. lightning Arresters.	80	Each	80.
10.	1 set	L.T.Switchgear.	1500	Each	1,500.
11.		IV Street light fittings.			
11.	40 Nos.	Street light fittings erected.	30	Each	1,200.
		V. HOUSE SERVICE CONNECTIONS ERECTED.			
12.	64 Nos.	House service connections.	75	Each	4,800.
13;	4 Nos	Power Services.	220	Each	880.
					14,705.
		Contingency 5%			.735
					15,440.
		Works Establishment 3%			
		Tools and Plants and Testing apparatus. 2%.	8%		1,381
		Establishment and general charges. 3%			
					16,821

DEPRECIATION AND INTEREST.

GUDUR.

Item.	PARTICULARS.	Capital in Rs.	Amount of depreciation in Rs.
1	100 KW. Diesel Generating set including erection.	47,200	2,538.
	S.F. .05377.		
2.	Transmission and distribution lines.	63,283	1,736.
	S.F. .02743.		
3.	Transformers, Switch-gear street-light fittings, House Services etc.	11,105	413.
	S.F. .03722		
4.	Meters.	3,600	194.
	S.F. .05377		
			4,881.
	Interest at 3½% on the capital of Rs.1,42,100 p.a.		4,974.
	Depreciation Amount.		4,881.
	Total	Rs.	9,855

G U D U R.

1. Non-Industrial units.	8,463 KWh
Industrial Units.	40,500 "
Transmission and Distribution.	
Loss at 15%.	7,344 "
Total units Generated.	56,307.KWH
2. Cost of Fuel Oil.	
Fuel Consumption per unit generated.	.84 lbs.
Total quantity of fuel oil required for the year.	21.1 tons.
Cost of fuel oil per unit generated fuel oil at 148/- Rs. per ton.	.9 Anna.
Working cost under this heading.	3,123 Rs
Additional Cost for parallel operation, which may be required at intervals for transfer of HT leads etc.	888
	4,011
3. Cost of Lubricating Oil.	
Consumption for the year taking .077 gallon per hour of lubricating oil for 100 kW set 6 hrs. working	170 gallons
Working cost under this heading. at Rs.3/- per gallons.	510 Rs
List of Staff.	
For Transmission and Distribution.	
2 Line men.	110/- p.
5 Line men helpers.	175/- p.
	285/- p.
Operation and supervision.	
Cost annually.	3,420

Water and Stores:

Cost per unit say .07 Anna.

Working Cost under this heading. (246). 800

Repairs and Maintenance.

Cost per unit say .09 Anna.

Working cost under this heading. (316) 1000

Incidentals and Insurance:

Cost per unit say .05 Anna.

Working cost under this heading. (176). 600 Rs.

Running Cost:

1) Fuel Oil.	4011	Rs.
2) Lubricating Oil.	510	Rs.
3) Operation & Supervision.	3420	Rs.
4) Water & stores.	800	Rs.
5) Repairs and Maintenance.	1000	Rs.
6) Incidental & Indurance.	600	Rs.
	10341	Rs.
Total Cost:-	10341	Rs.

Running cost per unit generated -

$= \frac{10341 \times 16}{56307} = 2.94$ Annas.

Fixed Charges:

1) Interest on capital of Rs.142100 at 3½%	4974	Rs.
2) Depreciation by sinking fund method will be -------	4881	Rs.
	9855	Rs.

Fixed charges per unit generated.

$\frac{9855 \times 16}{56307} = 2.8$ anna.

Total Distributed Cost/unit = 2.8 + 2.94
= 5.74 As.

G U D U R.

nnual Revenue:

40 Municipal St. lights Rs.36/- per annum.	1440
General Domestic lights at ~~As~~.-/6/- annas per unit 3443 units.	1291
20 Bazar lights at 30/- per lamp p.a.	60
Govt. offices, Buildings, at -/6/- annas per unit 576 units.	216
Annual lighting Meter Rentals at 6/- Rs. p.a. (64)	384
power meter rentals at 12/- Rs. p.a.(5).	~~2081~~ 60.
Motive power;	
2 Annas per unit 40500:	5063
Fixed charges at Rs.21/- per H.P.(30).	630
	9684
Total Revenue:	9684
Less working cost.	10341
BALANCE.	- 657
Less Dep. & Int.	9855
Additional Nett loss in the 5th year of working.	10512.
	~~11640~~

I.

Ilkal, Hungund, Sulibhavi & Gudur.

Ye[illegible]	Probable max.demand in K.V.	Probable Revenue. Lighting Rs.	Power Rs.	Total Rs.	Probable sale or units. Lighting KWH	Power KWH	Total KWH	Total units Generated KWH	Approximate working cost Rs.	Amount Dep. & Int. Rs.	Nett. profit or loss. Rs.
1st	37	9537	11282	20819	19605	78196	97801	[illegible]7582	49666	45507	- 74354.
2n[illegible]	7	23871	22564	46435	49011	156392	205403	[illegible]1324	56642	45507	- 55714.
3r[illegible]	[illegible]	35806	27076	62882	73517	187670	261187	[illegible]5476	Ø 60124	* 49585	- 46827.
4th	03	42914	30461	73375	88220	211129	299349	[illegible]0762	Ø 62566	* 49585	- 38776.
5	18	47682	33845	81527	98022	234588	332610	[illegible]7613	Ø 64726	* 49585	- 32784.
6	127	52450	37230	89680	107824	258047	365871	[illegible]5863	Ø 65629	* 49585	- 25534.
[illegible]	138	57218	40614	97832	117626	281506	399132	[illegible]4113	Ø 67660	* 49585	- 19413.
[illegible]	149	60795	43999	104794	124978	304964	429942	[illegible]9544	Ø 67960	* 49585	- 12751.
[illegible]h	166	64372	47383	111755	132330	328423	460753	[illegible]0977	Ø 69715	* 49585	- 7545.
[illegible]h	177	67947	50 768	118715	139682	351882	491564	[illegible]6299	Ø 69215	* 49585	- 85.
				807814					633903	487694	313783.

The figures marked Ø allow for the additional cost of fuel oil for parallel operation.

The figures marked * allow for the interest and Depreciation for third set of 100 KW from the 3rd year.

[illegible] Ilkal Hungund
& Sulibhavi
p 93

72372

Statement showing the estimated cost for the electrification Guledgud, Kamatgi, Ilkal, Hungund, Sulebhavi-Amingad and Gudur in the Bijapur District.

	Power house, machinery, etc.	Transmissions and distribution system.	Transformers, switch gears, Meters, street light fittings, house services, etc.	Total.
1	2	3	4	5
	Rs.	Rs.	Rs.	Rs.
(i) Electrification of Guledgud and Kamatgi.	3,23,220	1,34,628	1,03,452	5,61,300
(ii) Electrification of Ilkal, Hungund, Sulebhavi - Amingad and Gudur.	3,05,020	2,72,659	1,39,121	7,16,800

2
VMW.
10/12/47.

Electrification of certain Towns in the Bijapur Dist.

Govt. of Bombay.
P.W.Deptt.
Reso. No. 8993/36.
B.C., 21st ~~Dec.~~ July 1948.

Letter from the El. Commr. with the Govt. of Bombay, No. Elg. 356/10107, dt. the 13-10-47, as under :-

+ Note No. 1 to be printed as an account to the Resn.

(Enter) Schs 1-3

RESOLUTION: The following schemes are appd. administratively :-

Vide details in the attached statement. p 12-1

	Estimated cost* Rs.
(i) Electrification of Guledgud and Kamtgi in the Bijapur Dist.	5,61,300
(ii) Electrification of Ilkal, Hungud, Sulebhavi-Amingad and Gudur in the Bijapur Dist. ..	7,16,800

2. The cost of Schemes is debitable to the head "81-A-Capital Outlay on Electricity Schemes - Post War Reconstruction and Dev. Programme". ~~xxxxxx~~ No expdtr. should ~~however~~ be incurred on the schemes during the current ~~xxxxxx~~ financial year. ~~Necy. provision for the same has been proposed in the next year's budget estimates.~~

By order etc.,

451 10/12/47

and the El Commr should approach Govt for necessary funds before the Schemes for construction are taken up in the next financial year.

To
The F.D.
The R.C.D.
The R.D.
The H.& L.G.D.
The Commr.,S.D.
The Collr. of Bijapur.
The El.Commr. with the G.of B.
The S.E., S.C.
The El.Engr. to Govt.
The Ex.Engr.,El.Dn. and El. Inspector, Bombay Province.
The A.G., Bombay.

VMW.
)/12/47.

10/12/47

GOVERNMENT OF BOMBAY.
Public Works Department.
Resolution No.8993/36.
Bombay Castle, 21st January 1948.

Letter from the Electrical Commissioner with the Government of Bombay, No.Elg.356/~~xxx~~ 10107, dated the 13th October 1947, as under:-

" Reference: Government Resolution,Public Works Department No.6730/36(4)/~~xx~~ /dated 14th January 1947 detailed investigations have been ~~xxxx~~ carried out for the towns of Guledgud,Ilkal, Hungund and Sulibhavi- Amingad in Bijapur District. As also desired in Public Works Department Un Official Reference No. C.92/11108 dated 27th March,1947, schemes for proposed electrification of the two places viz.Kamatgi and Gudur,although those were not included for investigations in the above mentioned Government Resolution have been considered. In this connection the following notes are submitted herewith.

Note No.1 - Giving details in general of the proposed diesel electric schemes for the towns of Guledgud,Kamatgi,Ilkal, Hungund,Sulibhavi-Amingad and Gudur in Bijapur District.

Note No.2 - Giving load and other data regarding the electrifica of Guledgud.

Note No.3 - Same as note No.2 but including load and other data for the supply of electricity to the town of Kamatgi from the proposed diesel station at Guledgud.

Note No.4- Giving load and other data regarding the electrification of Ilkal,Hungund and Sulibhavi-Amingad.

Note No.5- Same as Note No.4 but including load and other data for the supply of electricity to Gudur from the proposed diesel station either at Ilkal or Hungund.

2. Reference is invited to this office drawing No.DE/DH-53 as per copy attached from which it will be seen that if electrification of Kamatgi is to be included along with that of Guledg as under Note No.3- seven miles of extra 11 KV transmission lines from Guledgud to Kamatgi,will be involved. In addition, one outdoor sub-station and L.T.distribution for Kamatgi proper will have to be arranged for. Similarly if electrification of Gudur is to be included along with that of Ilkal,Hungund,Sulibhavi and Amingad as under note No.5, 8 miles of extra 11 KV transmission lines from Amingad to Gudur will be involved and in addition one Outdoor Sub-station of suitable capacity and L distribution for Gudur proper, will have to be arranged for.

3. It will be noted from the report that the capital as well as operating costs are higher than those shown in the similar reports,submitted and sanctioned by the Government for four towns in Ratnagiri District. This is due to the fact that since the above reports were prepared, there has been an appreciable increase in the price of the plants and other machinery etc.Likewise,fuel oil supply companies have indicated much higher price for fuel oil than what they had done previously. The basis of salaries and wages which are much higher than those adopted previously for staff has also been revised.The revised operating cost also includes part of the cost for a sub-division which will be established for supervision and maintenance of the electrification schemes both in Bijapur and Belgaum Districts.

4. In view of the above mentioned higher costs, power tariff.....

tariff rates adopted in the estimates for the proposed schemes, are in line with those previously proposed for the electrification of Islampur in which connection reference is invited to Government Resolution No.8642/36 dated 8th August 1947. The rates proposed, however, are more favourable than those adopted by most other small concerns and are likely to be found acceptable.

5. It will be noted that the scheme for Guledgud is expected to be self-supporting in the tenth year and that the maximum demand in the first and tenth year will be about 30 KW and 139 KW respectively. Combined scheme for the electrification of Guledgud and Karatgi as per note 3 may become self-supporting slightly earlier i.e. in the ninth year and the maximum demand in the first and tenth year will go upto about 51 KW and 233 KW respectively. The combined scheme appears to be more promising than the scheme for Guledgud alone. Hence it is recommended for favourable consideration. The scheme for Ilkal, Hungund and Sulibhavi-Amingad, is expected to be self-supporting in the tenth year and that the maximum demand in the first and tenth year will be about 31 KW and 146 KW respectively. The combined scheme for Ilkal, Hungund, Sulibhavi-Amingad and Gudur as per note 5 may become almost self-supporting in the tenth year and the maximum demand in the first and tenth year will go upto about 37 KW and 177 KW respectively. It will be seen from the ten year forecast that the combined schemes may become almost self-supporting in the tenth year and in order that one more place may get the benefit of electric supply, this scheme may be favourably considered. The survey load data include power requirements for about five hundred electrically driven looms. This load has been taken into account on the assumption that Government will sanction my previously submitted proposals for giving out on hire purchase basis power looms to hand weavers. It will be noted that there are about 15000 handlooms working at present in these six towns and it has been assumed that in the first five years, only about 500 handlooms will be replaced by power looms in the houses of hand weavers. If as a result of the Government Policy actively pursued, more electrically operated powerlooms are installed and put into operation, the scheme for Guledgud and other places will become selfsupporting earlier.

6. As pointed out in paragraphs 6 and 7 of my letter, which forms preamble to the above quoted Government Resolution, prices of plant and machinery are at present high and consequently it was stated that the electrification of various towns mentioned in the letter will involve appreciable deficits for some years. This is confirmed by the figures which have been worked out and submitted in connection with the scheme for Islampur and is supported by the present worked out figures for the scheme of Guledgud and other places in Bijapur District. As, however, electrification will enable increased industrial production from village and small scale industries, the deficits, till the scheme for Guledgud and other places becomes self-supporting, may be considered as a justifiable action building expenditure.

7. Separate Government orders may kindly issue for each of the following schemes.

(1) Guledgud- Karatgi electrification as per details in Notes No.2 and 3 attached.

Total capital cost Rs.5,61,300/- only.

(2) Ilkal, Hungund, Sulibhavi-Amingad and Gudur electrification as per details in Notes No.4 and 5 attached.

Total capital cost Rs.7,16,800/- only."

RESOLUTION: The following schemes are approved administratively

(i)---

		Estimated cost Rs.
(i)	Electrification of Guledgud and Kamatgi in the Bijapur District. ..	5,61,300
(ii)	Electrification of Ilkal, Hungund, Sulibhavi-Amingad and Gudur in the Bijapur District.	7,16,800

*Vide details in the attached statement.

2. The cost of Schemes is debitable to the head "81-A — Capital Outlay on Electricity Schemes- Post War Reconstruction and Development Programme". No expenditure should be incurred on the schemes during the current financial year and the Electrical Commissioner should approach Government for necessary funds before the Schemes are taken up for construction in the next financial year.

By order of the Governor of Bombay,

D. A. Gadkary,
Deputy Secretary to Government.

G.R.,P.W.D.No.8993/36, dated the 21st January 1948.

Orders issued after consultation with Finance & Reconstruction Departments. Notes recorded with the Departments and can be seen when required.

To

The Finance Department.
The Reconstruction Department.
The Revenue Department.
The Health and Local Government Department.
The Commissioner, Southern Division.
The Collector of Bijapur.
The Electrical Commissioner with the Government of Bombay.
The Superintending Engineer, Southern Circle.
The Electrical Engineer to Government.
The Executive Engineer, Electrical Division and Electric Inspector, Bombay Province.
The Accountant General, Bombay.

No. of 1948.

Copy forwarded for information and guidance to -

Accompaniment to Government Resolution, Public Works Department No.8993/36, dated the 21st January 1948.

Proposed Diesel- Electric Scheme for the towns of Guledgud, Kamatgi, Ilkal, Hungund Sulibhavi-Amingad and Gudur in Bijapur District.

1. Features of the Towns:

Guledgud:- It is situated in Badami Taluka. The nearest railway station is Katgeri, which is 7 miles off Guledgud. There is an all weather road connecting Guledgud with Katgeri for vehicular Traffic. The town of Guledgud is surrounded on three sides by Hills and on the fourth side by a Nalla. The total area covered by the town, is about 0.35 sq.mile.

Kamatgi:- The town of Kamatgi is situated in Hungund Taluka. The nearest railway Station is Bagalkot, which is about 15 miles off Kamatgi. There is a Public Works Department road connecting Kamatgi with Bagalkot for vehicular traffic. It is about 7 miles off Guledgud and about 8 miles off Amingad. It is situated on the Bank of the river Malprabha. The total area covered by the town is about 0.2 square mile.

Ilkal:- The town of Ilkal is situated in Hungund Taluka. The nearest railway station is Bagalkot, which is about 38 miles off Ilkal. There is a Public Works Department road connecting Ilkal with Bagalkot for vehicular traffic. During monsoon, the road traffic gets interrupted when there is flood in Nallas. The town is surrounded on three sides by Nallas and on the fourth side by fields. The total area covered by the town is about 0.65 square mile.

Hungund:- It is a taluka town. The nearest railway station is Bagalkot, which is about 30 miles off Hungund. Hungund is on the Public Works Department Road from Bagalkot to Ilkal. Hungund is on a small plateau. There is a hill on the North Side and a Nalla on the South side of Hungund. The total area covered by the town is about 0.1 square mile.

Sulibhavi-Amingad:- Sulibhavi is a small town in Hungund Taluka. For Revenue and other purposes the town of Amingad, which is a mile off Sulibhavi, is included in Sulibhavi area. Amingad is on the Public Works Department Road from Bagalkot to Ilkal and Sulibhavi in the South off Amingad, is on the Amingad-Gudur Road. Amingad is about 22 miles and Sulibhavi is about 23 miles from Bagalkot, the nearest railway station. There is a hill on the North side and a Nalla on the South side of Amingad. The total area covered by Amingad and Sulibhavi, is about 0.23 square mile.

Gudur:- The town of Gudur is situated in Hungund Taluka. It is about 8 miles South off Amingad and about 16 and 24 miles respectively from Hungund and Ilkal. There is a District Local Board Road connecting Gudur with Amingad for vehicular traffic. The total area covered by the place is about 0.08 square mile.

2. Population: The present population of Guledgud is about
Guledgud--
20,603, as against 18,307 in 1941. The extension areas are being developed owing to the recent increase in population.

Kanatgi: The present population of Kanatgi is about 8000 as against 6,995 in 1941.

Ilkal:- The present population of Ilkal is about 18,500 as against 17,600 in 1941. The inhabited areas in the town are getting overcrowded and extension areas are therefore contemplated.

Hungund:- The present population of Hungund is about 7,500 as against 6,748 in 1941.

Sulibhavi-Amingad:- The present population of Sulibhavi including Amingad is about 10,500 as against 9,549 in 1941.

Gudur:- The present population of Gudur is about 4,000 as against 3,629 in 1941.

3. Scope of Electrical Development:-

The main occupation of the people is agriculture and hand-weaving. Out of the total number of 15,000 handlooms that are operating in Bijapur District, there are about 5,000 looms each in Ilkal and Guledgud, and there are about 2,000, 1,600 and 500 looms in Sulibhavi-Amingad, Kanatgi and Gudur respectively. About 1/3 of the population in each of the above places is engaged on Hand-weaving. As the demand for cloth is increasing, most of the Handloom weavers are anxious to increase the production and some of them have shown their willingness to change over their looms to electric drive. There are also small scale industrial power plants, which are at present driven by oil engines with an aggregate output of about 219 H.P. Most of these engines are worn out and entail at present considerable repairs. Some of them, therefore, are likely to change over their plants to electric drive if electricity is made available.

The town of Guledgud has its own municipal Committee and the Committee is going to establish water-works in near future. Municipal Committee of Ilkal is also considering to have a drainage scheme. The total power requirement for the above water and drainage schemes, when started, will amount to about 70 H.P. The probable loads from these sources, have not however been taken into account for the purpose of estimating revenue as under the present difficulty of obtaining machinery and parts, it is not certain when the above schemes will be completed. But Negotiation will be started with both the Municipalities in connection with their power requirements after it is decided that the scheme for these towns is to be taken up.

4. Electrical Load Survey: Notes No.2,3,4 and 5 give the approximate load details for Guledgud, Kanatgi, Ilkal, Mungund, Sulibhavi and Gudur respectively and they are based on the information/from Municipalities and other local bodies and public men of the places.

/obtained

5. Cost of Generation: According to the latest information obtained from Diesel oil supply Companies the cost of fuel oil delivered at site will be approximately Rs.165/- per ton and that for lubricating oil will be Rs.3/- per gallon. Since the revised rate now quoted for the supply of Diesel oil is much higher than the ~~xxx~~ basic rate of Rs.90/- to Rs.103/8/- which suppliers ~~x~~ suggested to this office to adopt for the purpose of estimates some time ago, the tariff rates previously taken as the basis for estimates, have now been revised to meet the higher cost of fuel oil and that of operation as well.

Tariff: The prices of plant, equipment and materials including fuel oil are continually on ~~xxx~~ increase and the present high cost may continue for some years more. As such large amounts have to be set aside for depreciation and interest. The working cost of Diesel Power Station will be pretty high for some years. This means the generation and supply of cheap electricity may not be possible for some years. Further, the places to be electrified comprise a backward part of the province and as such the tariff rates are to be so selected that they are acceptable to the consumers. The suggested rates are as under:-

(i) Motive Power:- As.2 per unit for the first 2000 units per month plus a fixed charge of Rs.1-12-0 per month per H.P. Connected and As.1½ per unit for the additional units consumed.

(ii) Lighting:- For lighting and fans As.6 per unit.

In connection with the above rates, it may be mentioned that most of the electric supply companies in small towns charge at present As.6 per unit for lighting and from 1½ to As.3 per unit for noting power plus a fixed charge upto Rs.3/- per B.H.P. connected plus war cost surcharge of 33 and 1/3 per cent.

7. Financial Details:- The total initial cost for the scheme of Guledgud as per Note No.2 will be approximately Rs.3,61,300. In case, it is decided to serve Kanatgi with Electricity from the proposed diesel station at Guledgud, an Extra Cost of Rs.2,00,000 as per Note No.3 will be involved, making a total cost of Rs. 5,61,300. From the estimates given in the above mentioned notes, the anticipated nett deficits in the fifth year of working of the scheme, for Guledgud and Kanatgi, will be about Rs.15,799 and Rs.4877 respectively, making a total deficit of Rs.20676/- for the combined scheme. It will further be seen from the Statements, giving forecast of the development of the scheme over a period of ten years, which are also included in the above mentioned notes, that the individual scheme for Guledgud, may become self-supporting in the tenth year and the combined scheme may become self-supporting slightly earlier i.e. in the ninth year.

The....

The total initial cost for the scheme of Ilkal, Hungund, Sulibhavi-Amingad as per note No.4 will be approximately Rs.5,74,700. In case, it is decided to serve Gudur with Electricity from the proposed diesel station which may be established either at Ilkal or Hungund, any extra cost of Rs.1,42,100 as per Note No.5, will be involved, making a total cost of Rs.7,16,800. From the estimates given in the above mentioned notes, the anticipated nett deficit in the fifth year of working of the scheme for Ilkal,Hungund,Sulibhavi-Amingad and that for Gudur, will be about Rs.22,272 and Rs.10,512 respectively, making a total deficit of Rs.32,784/- for the combined scheme. It will further be seen from the statements,giving forecast of the development of the scheme over a period of ten years, which are also included in the above mentioned notes,that the scheme for Ilkal,Hungund and Sulibhavi-Amingad may become self-supporting in the tenth year and the including that for Gudur ~~xxxxxx~~ may almost become self-supporting, in the tenth year. It may be noted that the forecasts of development of the schemes throughout, are based on the following assumptions:-

a. The rates of Fuel oil have been estimated at -
Rs.165/- per ton for the ~~xx~~ first year.
Rs.166/- per ton minus 5 per cent for the second year.
Rs.165/- per ton minus 10 per cent for the 3rd,4th and 5th year.

It has been further assumed that the cost of fuel oil prevailing in the 5th year will be reduced in the 6th year,8th and 10th year by 5,10 and 15 per cent respectively.

b. According to the statements of ten year forecast submitted as per Notes No.2 and 4, provision will have to be made for the installation of an additional set of 100 KW. in the sixth year estimated to cost Rs.46,000/- per scheme. This capital cost is not included in the initial cost figures of Rs.3,61,300 and Rs.5,74,700 respectively, but interest and depreciation charges have been exhibited in the above statements. According to the statements of ten year forecast submitted as per Notes No.3 and 5, the third set of 150 kW. and 100 kW. will be required to be installed in the second and third year, respectively, although provision in the estimate, has been made for three sets from the beginning.

8. Technical Details:- The Diesel station at Guledgud,which is proposed to serve the town of Guledgud with Electricity,will be equipped with two generating sets,one of 100 kW. and the other of 50 kW. In case, it is decided to serve Kamatgi with electricity, Diesel Station at Guledgud will be equipped with two generating sets,100 kW. each in the beginning and the third set of 150 kW. will be added later. In the case of towns viz.Ilkal,Hungund, Sulibhavi-~~xxx~~ Amingad, the Diesel Station at one of these places, will be equipped with two generating sets of 100 kW. each.In case it is decided to serve Gudur with Electricity, the Diesel Station will have to be equipped with two generating sets 100 kW. each in the beginning and the third set of similar capacity will be added later. Each of these stations will be complete with switchgear,inter-connecting cables,power House Crane,Water cooling arrangements, emergency lighting sets and other auxillaries etc.

The generating supply will be 400/440 volts,three phase,50 cycles, 4 wire. The areas adjoining the proposed generating stations will be served direct from the stations at the generating voltage. For the remaining areas which will be far and cannot economically be served from the generating stations, sub-stations at suitable centres will be established. The supply voltage at the generating stations will be stepped up to 11 kV.for the transmission of energy to the above sub-stations where the voltage will be stepped down again to 400 volts for distribution.

Statement showing the estimated cost for the electrification of Guledgud, Kamatgi, Ilkal, Hungund, Sulibhavi-Aminad and Gudur in the Bijapur District.

	Power house, machinery, etc.	Transmission and distribution system.	Transformers, switch gears, meters, street light fittings, house services, etc.	Total.
1	2	3	4	5
	Rs.	Rs.	Rs.	Rs.
(i) Electrification of Guledgud and Kamatgi.	3,23,220	1,34,628	1,03,452	5,61,300
(ii) Electrification of Ilkal, Hungund, Sulibhavi-Aminad and Gudur.	3,05,020	2,72,659	1,39,121	7,16,800

VPs.
23/1/48

Letter

No.Elg.3[illegible]/41)
Electric Grid Office
Foreshore Road,
Bombay 1: 8th May 1948.

To

The Secretary to Government,
Public Works Department,
Bombay.

Subject: Nursery Schemes
Guledgud, Kamatgi, Ilkal, Hungund,
Sulibhavi, Amingad and Gudur.
Electrification of -
Reference: Government Resolution, Public Works Department, No.8993/36, of 21st January 1948.

In the Government Resolution quoted above, Government was pleased to approve administratively the proposal for the electrification of the following schemes in Bijapur District:-

	Estimated Cost Rs.
(i) Electrification of Guledgud and Kamatgi	5,61,300
(ii) Electrification of Ilkal, Hungund, Sulebhavi, Amingad and Gudur ...	7,16,800

2. Specifications for Diesel Electric Plant and Equipment and Powerhouse Buildings required for these schemes are being prepared and will be issued to tenderers shortly.

3. Detailed estimates for these schemes will be prepared and submitted to Government for technical sanction after the completion of the detailed investigations, which are expected to be taken up shortly.

4. Previous experience shows that it takes about two years to procure plant and machinery ordered from abroad. Ratnagiri schemes which were to be executed and start functioning by the end of the year 1947, have been postponed to the end of the year 1948, due to the delay in getting the machinery ordered from the United Kingdom. Considering this, it is anticipated that Bijapur District Schemes which are to be taken in hand after completion of the schemes in Ratnagiri District, may commence functioning by the end of the year 1949 instead of the beginning of 1949, as was previously programmed. Since most of the machinery required for the schemes under reference is to be purchased from abroad, it is advisable to place the order as soon as possible, in order to facilitate execution of the schemes with minimum delay.

5./

5. In compliance with Government Resolution, Public Works Department, No.6730/36(4), of 14th January 1947, I have submitted to Government the scheme for the electrification of Dharangaon, Erandol and Parola in Khandesh District under cover of my letter No.Elg 386/7916 dated 8-5-48. This scheme is likely to be self-supporting in the tenth year. In view of the long delivery periods being quoted and the continued upward tendency of prices, it is suggested that the orders for the plant and equipment required for this scheme may also be placed along with those for the Bijapur District.

6. I accordingly request that I may be authorised to purchase direct and not through the Central Purchase Organisation the following plant and equipment in anticipation of Government administrative and technical sanction of electrification of the towns of :-

(a) Guledgud and Kamatgi (administratively sanctioned).

(b) Ilkal, Hungund, Amingad, Sulibhavi and Gudur: -do- -do-

(c) Dharangaon, Erandol and Parola : (Scheme already submitted to Govt. for administrative approval).

A. Plant and Equipment to be ordered for (a) & (b) :-

	(a)* Rs.	(b)* Rs.
1. Fuel oil storage tanks:	5,750	5,750
2. Power House Cranes complete with Gantry Girders :	5,000	5,000
3. Diesel Electric Sets and accessories including coolers, heat exchangers, water circulating pumps, petrol/paraffin Engine driven compressor and emergency lighting sets, auxiliary electric driven compressors, streamline filters etc:	151,050	141,250
4. Transformers and 11 kV switchgear ...	15,100	13,000
5. L.T.Switchgear	25,500	25,200
6. Cables, powerhouse lighting and Earthing materials:	5,500	5,500
7. Workshop Equipment:	5,000	5,000
8. Tools, Testing Apparatus etc... ...	5,960	5,565
Total ...	218,860	206,265

* These figures are as administratively approved. Please see para 7 below.

Total approximate price for (a) : Rs. 218,860
Total approximate price for (b) : Rs. 206,265

Total: Rs. 425,125 F.O.R., Bombay

B.V.

B. Plant & Equipment to be ordered for (c) :-

	(c) Rs.
1. Fuel Oil Storage Tanks :	6,800
2. Power House Cranes Complete with Gantry Girders :	5,780
3. Diesel Electric Sets and Accessories including coolers, heat exchangers, water circulating pumps, petrol/paraffin Engine driven compressor and emergency lighting sets, auxiliary electric driven compressors, streamline filters,etc:	181,500
4. Transformers and 11 kV switchgear: ...	18,300
5. L.T.Switchgear:	26,500
6. Cables, Power House Lighting and Earthing Materials :	6,500
7. Workshop Equipment :	7,000
8. Tools, Testing Apparatus etc:... ...	10,487
Total ...	262,867

Total approximate price for (c): Rs. 262,867 F.O.R.,Bombay.

7. The prices of the plant and equipment are continuously rising. Since the Bijapur District schemes were administratively approved, the prices of plant and equipment under (a) and (b) of para 6 above, have gone up by about 10 to 12 percent, and if the plant and equipment under these schemes are now ordered, the total cost involved today will be about (a) Rs. 242,380/- and (b) Rs. 229,880/- as against (a) Rs. 218,860/- and (b)Rs.206,265/-, as administratively approved. If Government is pleased to approve my above proposal of placing orders in anticipation of technical sanction for the Bijapur and Khandesh schemes, the above revised total figures for Bijapur District may kindly be approved.

I shall be obliged for early orders of Government.

P Bhadram.
Electrical Commissioner
with the Government of Bombay.

ARK.4.54

Letter.

No. 8993/36-El.

P.W.Deptt.,
B.C., 14 ~~Oct.~~ 8 Nov 1948.

To

The El.Commr.with the Govt.of Bombay.

Subject:-Electrification of
(1) Guledgud and Kamalgi,
(2) Ilkal,Hungund Sulebhavi Amingad & Gud
in the Bijapur Dist.

Ref: Your letter No.E/9/356/7917,dated the 8-5-48.
Memo No A48/1585, dated the 24-9-48.

2. Provision for the electrification schemes in questi is being proposed in the Budget of 1949-50 as new item of expenditure and the question of permitting you to place orders for plant and equipment required for the schemes, in anticipation of techni.sanction to the plans and estim ~~exps~~ will be considered after the provision is passed by t L.A.

3. Please submit revised estimates for the schemes mentioned

mentioned above at an early date.

By order etc.,

D.A.-Nil.

BKR
27/10/48

ISSUED
on. 27.10.48

For further proceedings pl. see file 8993/36/8993/1

Originals in file No. 8993/36/69645 — 13

Letter. 139

No. 8993/36-El. Public Works Department.
Bombay Castle, 20th December 1948.

To

The Electrical Commissioner with the Government of Bombay.

Subject:- Printing of specification for diesel electric plant and equipment.

Reference:- Your letters No. Elg.D.S.11/10446 and No.Elg.D.S.11/19654, dated the 19th October 1948 and the 15th November 1948, respectively.

2. In the circumstances explained in your letter, your action in placing the order for the printing of 75 copies of specification, in question, at Rs. 14 each, with the Navyug Printing Press, is approved.

3. The charge should be met from the grant at your disposal under the head "5-A-Other Revenue Expenditure Establishment Contingencies (Post War Reconstruction and Development Programme)".

By order of the Governor of Bombay,

for Deputy Secretary to the Government of Bombay,
Public Works Department.

D.A. Nil.

Copy forwarded for information to -

the Health and Local Government Department,
the Finance Department,
the Accountant General, Bombay.

For further proceedings pl. see file No 8993/36/8993

ABS
23/1/50

Ext. Comm. expedited wilto refer to G.A. at p. 137 ante under No. 8993/36-EC, dated Thu Jan. 1949.

ABS
26/1/1949

Ext. Comm. expedited wilto refer to G.A. at p. 137 ante under No. 8993/36-EC, dated the Jan 1949

23/1/49

ISSUED
26/01/49

Letter

'36/1185

No. 8993/36-El(1)

P.W.D.
Bg. (Poo
20th May 19 mo

To The Elect. Commr. with the G.of.B.

Subject: Electrification of
(1) Guledgud and Kamatgi.
(2) Ilkal, Hungund, Sulebhavi, Amingad & Guden in the Bijapur Dist.

Reference: G.L.P.W.D. No 8993/36-El, dt the 8-11-48

2. Please refer to para 3 of the above mentioned ~~quoted~~ letter and expedite submn. of the revised estimates for the schemes.

By order of the G.of.B.

DA nil.
6/5/50

Asstt. Secy to the G.of.B.

19/5/50

Letter.

No.8993/36-El(I).

Public Works Department,
Bombay Castle (Bombay No.1),
20th May 1950.

To

The Electrical Commissioner with the Government of Bombay.

Subject:- Electrification of -

(1) Gulegud and Kamatgi.
(2) Ilkal, Hungund, Sulebhavi, Amingad and Gudur in the Bijapur District.

Reference: Government Letter, Public Works Department No.8[illegible] 36-El, dated the 8th November 1948.

2. Please refer to para 3 of the above mentioned letter and expedite submission of the revised estimates for the schemes.

By order of the Governor of Bombay,

Assistant Secretary to the Government of Bombay
Public Works Department.

D.A:- Nil.

2
MAB/20/5/50

Recd. on 22/5

ISSUED
on 22/5/50

143

No.ELG.(D&S)II/356/1236
Electric Grid Offices,
Foreshore Road,
Bombay.1. 3rd June 1950.

To,

The Secretary to Government,
Public Works Department,
Bombay.1.

Subject:- Electrification of
(1) Guledgud and Kamatgi
(2) Ilkal, Hungund, Sulebhavi, Amingad and Gudur in Bijapur Dist,

Reference:- P.W.D.No.8993/36-El(I), dated 20th May 1950.

.....

The Estimates for technical sanction in connection with the electrification of the above towns will be submitted as soon ~~as~~ after the following items are finalized as possible.

1936
1937
1938

(1) Govt. have been approached for authority to place orders through D.G.I. & S. for the transmission and distribution line materials for the above towns. Final prices to be incorporated in technical sanction estimates can be arrived at after placing the order.

(2) The Central Electricity Commission has not forwarded our indents for rail poles required for the above towns, on producers due to previous pending orders. The actual cost of these will be known after the indents are placed.

P.T.O.

(3) The Power House site at Ilkal is not yet finally decided on as investigations about watersupply is not complete. After this is done the cost of the site and building will be arrived at.

Electrical Commissioner
..... with the Government of Bombay.

DRS.2/6/50.